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AN EVALUATION OF THE MANAGEMENT OF
THE REGULATORY PROCESS IN EASTERN
CANADA OFFSHORE DRILLING

Submitted
to
ROYAL COMMISSION ON THE
"OCEAN RANGER" MARINE DISASTER

NATIONAL PETROLEUM AND MARINE CONSULTANTS LIMITED

June, 1984

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CANADA OFFSHORE DRILLING**

DRAFT

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ROYAL COMMISSION ON THE
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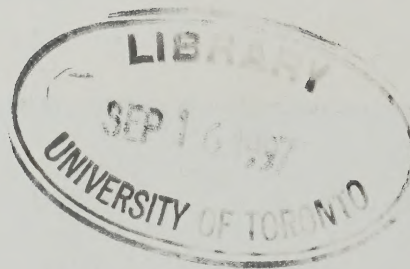
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June 19, 1984

Royal Commission on the
Ocean Ranger Marine Disaster
Fort William Building
St. John's, Newfoundland

Attention: Mr. R. Dyck, Studies Manager

Dear Sirs:

We are pleased to submit herewith our final report entitled "An Evaluation of the Management of the Regulatory Process of Eastern Canada Offshore Drilling".

The study describes in some detail the organization and administration of governmental regulation of east coast offshore exploratory drilling, and presents an analysis of specific problem areas within the regulatory regime which were the cause of concern to industry and to the study team. Finally, the study team makes practical recommendations on how governments should address these areas of concern.

The information presented in the report is valid as of January, 1984. Therefore, any changes made in the regulatory system since that time are not reflected.

In performing this study, National Petroleum and Marine Consultants were assisted by the following sub-contractors: G.J. Purcell, of Marine Resource Consultants Ltd.; A.J. Holleman, of A.J. Holleman Engineering Ltd.; and G. Yungblut of E.P.I. Resources Ltd.

We have enjoyed carrying out this study on your behalf and we hope that the information contained herein will assist the Commission in fulfilling its mandate.

Yours very truly,
NATIONAL PETROLEUM AND MARINE CONSULTANTS LIMITED

Wilson E. Russell

Wilson E. Russell
President

WER:pm

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EXECUTIVE SUMMARY

With the rapid development of exploration activity off Canada's East Coast, the safety of personnel involved in this industry and government's responsibility for regulation of that safety have become issues of interest and concern. A complex regulatory system has arisen due to a host of historical, geographical, technical, administrative and political factors. The need to sort out and examine this regulatory process has given rise to this study.

The objectives of the study are to describe the organization and management structures of the federal and provincial agencies involved in the regulation of safety in Eastern Canada offshore drilling and to evaluate their effectiveness.

A detailed summary of the organization of each of the primary agencies involved was produced. Federally, these are the Canada Oil and Gas Lands Administration, the Canada Coast Guard and the National Search and Rescue Program. Provincially, the Newfoundland and Labrador Petroleum Directorate and the Nova Scotia Department of Mines and Energy are the lead agencies. In addition to these, a host of secondary federal and provincial agencies are involved. The organization of these and their relation to the primary agencies was described. Next, a detailed description and discussion of the administration and functioning of all the agencies involved was produced. Included in this was an examination of the major regulatory activities as they now stand and a list of significant recent or proposed changes to the structures.

The study team had meetings with and collected information from the agencies and from relevant petroleum companies and contractors. This information was combined with the study team's own knowledge of these agencies to

produce an evaluation of the regulatory regimes described. Significant concerns related to potential deficiencies in the systems were identified and analysed.

The areas of concern were categorized as general organization and policy, development of regulations, applications and permits, inspections, monitoring and enforcement, specific areas requiring special regulatory attention, and liaison between primary agencies and other groups.

Those concerns which the study team concluded were valid led to the recommendations in this report. The most important of these are cited here.

- In the federal system, the responsibility of the lead agency (i.e. COGLA) for the performance of other agencies should be clarified.

- Regulatory agencies should establish an internal set of procedures/guidelines that set out the methodology for designing and promulgating regulations, the basis on which regulations are reviewed and amended, and the methodology for handling industry requests for changes.

- Provision should be made for a formal appeal system where industry has the opportunity to put forward to regulation agencies alternatives to particular requirements.

- Industry should be invited, consistently, to provide input at the early stage of development of regulations.

- A definition that sets out the legal authority of directives, guidelines and standards should be generated and published.

- Regulatory agencies should have recognized procedures in place for testing and approval of safety equipment.

- Regulatory agencies in the federal system should establish a formal mechanism for input of workers' safety committees into safety regulatory matters.

- COGLA and Transport Canada should formulate a workable set of standards for helicopter landing facilities taking due consideration of developing international standards.

- There should be improved co-ordination of initial inspection and survey of drilling units to minimize any overlaps and gaps.

INTRODUCTION

In recent years, with the rapid development of exploration activity off Canada's East coast, the safety of personnel involved in this industry and government's responsibility for regulation of that safety has become an issue of interest and concern to the public. Partly in response to this, a complex system of government regulations has arisen. The complexity of this regulatory regime is caused not only by the rapidity with which the system has developed, but is due directly to a host of historical, geographical, technical, administrative and political factors. The need to sort out and examine this regulatory process has given rise to this study, which was commissioned by the Royal Commission on the "Ocean Ranger" Marine Disaster under Part II of its Terms of Reference. These Terms of Reference are shown in Appendix D of this report.

This study is an attempt to assess the effectiveness of the organization and management structures of the federal and provincial agencies involved in the regulation of safety in Eastern Canada offshore drilling. The agencies are those responsible for administering legislation pertinent to marine, drilling, and air and sea support functions.

To accomplish this, a study team was assembled consisting of individuals, each of whom has a first-hand knowledge of either the federal or provincial regulatory regimes. Through a combination of interviews with government officials, surveys of representatives of industries subject to regulation, and experience of the members of the study team, an attempt has been made to present such an evaluation.

The responsibilities assigned to the various agencies are described. The administrative arrangements

involved in assigning responsibilities and co-ordinating activities are described as they relate to: the development of regulations; liaison with industry; inspection, monitoring and enforcement of regulations; and resolution of inter-agency conflicts.

The actual functioning of the safety management structures is assessed based on information gleaned from meetings with the regulatory agencies themselves and selected industry companies, documentation from the agencies, written responses from companies, and the experiences of the study team. The assessment attempts to focus on the effectiveness of the agencies in handling both general areas and detailed issues.

The regulatory systems for offshore drilling on the East Coast of Canada are of recent vintage. Although drilling has been done for about twenty years, only in the past few years has there been a significant emphasis on the part of federal and provincial governments on offshore safety. Consequently, the organizations and the regulations they administer and enforce are, in the main, recent developments. They are still in the growth stages both in numbers of personnel and in the level of relevant experience. New relationships are being formulated and defined and there are natural problems in establishing the most effective structures for organization and management.

Another factor in the equation is the nature of the industry being regulated which is undergoing considerable change as it adapts to the environmental problems special to this area. As well, new operators and contractors are common in the East Coast offshore and they are in a learning mode, especially early in their drilling programs.

CHAPTER 1

THE ORGANIZATION OF GOVERNMENT REGULATORY BODIES

1.1 THE CANADA OIL AND GAS LANDS ADMINISTRATION

1.1.1 Mandate

The Canada Oil and Gas Lands Administration (COGLA) is responsible for the management of oil and gas exploration and development in the Canada lands, an area comprising 6.5 million square kilometers in the Yukon, the Northwest Territories and certain other northern areas under the jurisdiction of the Minister of Indian Affairs and Northern Development (DIAND), and approximately 3.9 million square kilometers off the East and West coasts and in Hudson Bay, under the jurisdiction of the Minister of Energy, Mines and Resources (EMR). The principal purpose for the creation of COGLA was to concentrate, within a single body, the oil and gas management functions exercised by DIAND, with respect to Canada lands situated north of the line of administrative convenience defined in Schedule IV of the Canada Oil and Gas Land Regulations and by EMR with respect to Canada lands located south of that line. The Memorandum of Understanding concerning the establishment of COGLA is given in Appendix A1. The line of administrative convenience, as it affects the East Coast Study Area is indicated in Figure 1.1.

COGLA was formed in 1981, in preparation for the passage of the Canada Oil and Gas Act, proclaimed in March

STUDY AREA
Eastern Canada
Offshore

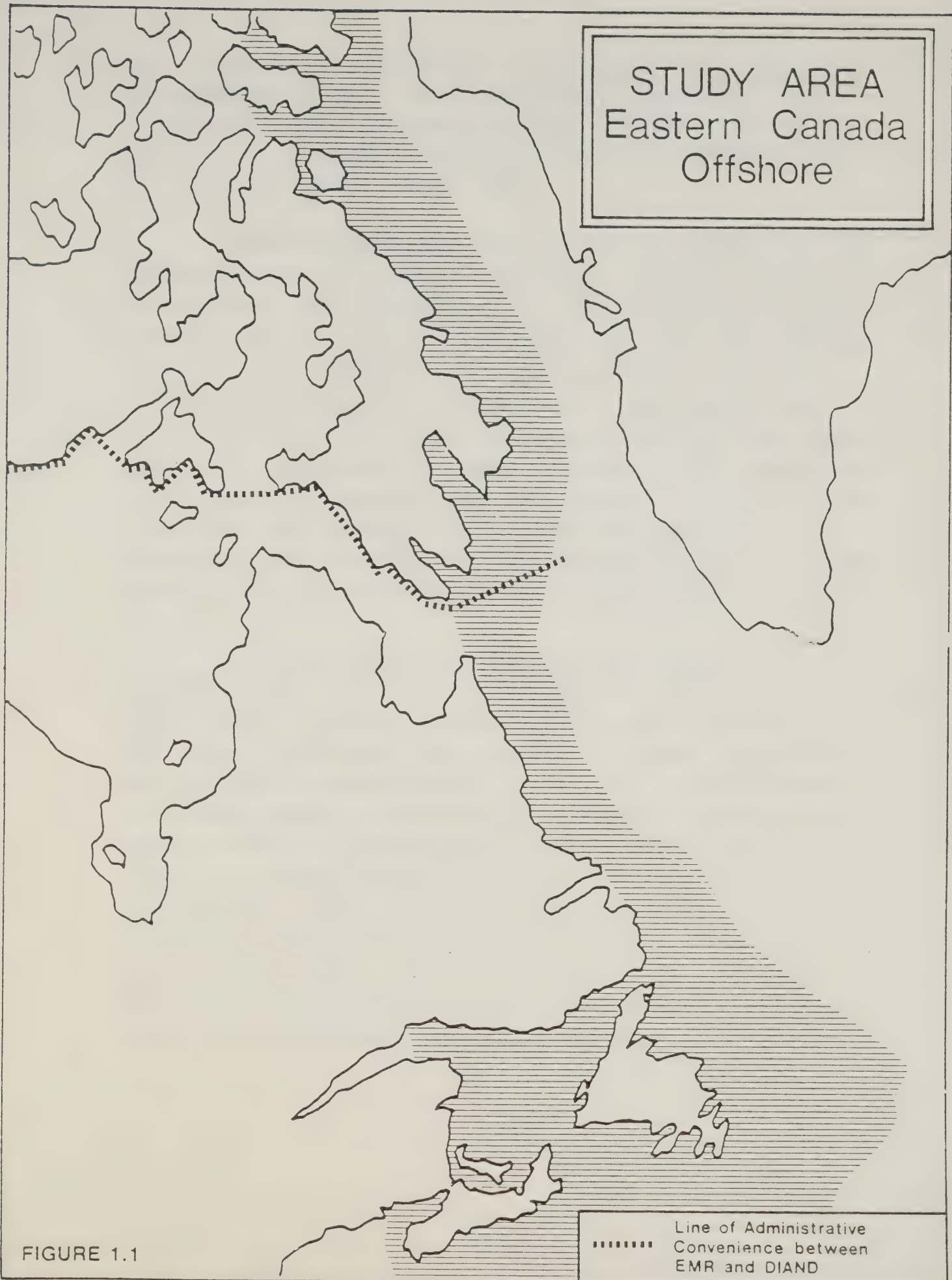


FIGURE 1.1

.....
Line of Administrative
Convenience between
EMR and DIAND

1982 together with amendments to the Oil and Gas Production and Conservation Act. This legislation provided a restructured legal framework designed to govern oil and gas activity in the Canada lands according to the precepts of the National Energy Program (NEP).

Several departments and agencies are involved in the implementation of the NEP's objectives. COGLA's mandate, in this respect, is to administer oil and gas activity in the Canada lands; to that end, COGLA has been made the principal point of contact between government and the oil and gas industry concerning their activities in the Canada lands. Under the direction of the Ministers of DIAND and EMR, COGLA negotiates exploration agreements, authorizes all activities respecting the exploration for and production of oil and gas on Canada lands, inspects exploration and production operations and coordinates the development of related Canada Benefits plans and the resolution of environmental concerns.

While a single new body combining components of two departments was created, the two Ministers involved retained their respective areas of responsibility north and south of the line of administrative convenience. COGLA, therefore, has an unusual organizational status: it is not a program or a branch within a particular departmental framework, nor does it have the independence of a Crown corporation. It cannot be compared to most existing federal units of organization. It is an administrative body with dual functional responsibility to Northern Policy (DIAND) and Energy Policy (EMR). Its authority is derived from the Ministers of both parent departments and is exercised to the extent that ministerial delegation is made.

Under the Memorandum of Understanding between the Ministers of EMR and DIAND that established COGLA, both departments turned over to COGLA their respective oil and gas resource management functions for Canada lands. Each department, however, retained a substantial number of policy and operational activities with which COGLA activities must be coordinated. For example, the Northern Affairs Program of DIAND retains responsibility for environmental management and protection in the northern Canada lands, socio-economic benefits for northern residents, negotiating strategies and agreements with territorial governments and the coordination of policy and planning in relation to major resource developments north of 60° exclusive of the specific operational responsibilities of COGLA. Thus DIAND, for example is responsible for evaluation of environmental protection aspects of contingency plans North of 60°, whereas COGLA would be responsible for the personnel safety aspects of such plans. For its part, EMR retains responsibility for national energy strategies and policy development, negotiating strategies and agreements with coastal provinces and finally, it has a broad mandate by the Office of Environmental Affairs to oversee COGLA conformance with the Environmental Assessment Review Process (EARP).

COGLA is headed by an Administrator, who has authority to take all ongoing operational decisions and bears the principal responsibility for the implementation of the Canada Oil and Gas Act. The Administrator is also, by joint EMR and DIAND ministerial designation under the Oil and Gas Production and Conservation Act, the Chief Conservation Officer. The Administrator reports to the Deputy Minister of EMR and to the Deputy Minister of DIAND and receives direction from them on how he is to relate COGLA operations to relevant EMR and DIAND activities. Policy advice is provided by the COGLA Policy Review

Committee (PRC), which includes senior personnel from both EMR and DIAND. The PRC ensures that COGLA policy decisions are consistent with the requirements of Energy Policy and Northern Policy.

Major policy questions concerning the development of the North that go beyond matters related specifically to the Canada Oil and Gas Act are dealt with by the Senior Policy Committee on Northern Resource Development. This committee provides a vehicle for interdepartmental discussion of those matters and is chaired by the Assistant Deputy Minister, Northern Affairs, who brings to the attention of the COGLA Policy Review Committee any conclusions reached by the Senior Policy Committee that may impact on COGLA decisions.

1.1.2 Central Organization

As is apparent from the accompanying chart, Figure 1.2, COGLA is composed of six main branches, with two regional offices in the study area. The responsibilities of the six main branches are as follows:

1) ENGINEERING AND CONTROL

The Engineering and Control Branch is responsible for the regulation and monitoring of exploratory drilling as well as development and production activities on Canada lands. The Branch is responsible for the administration and enforcement of the Oil and Gas Production and Conservation Act and of regulations promulgated thereunder as well as for ensuring that an operator takes all the precautions necessary for the safety of personnel, the prevention of pollution and the conservation of resources. The Branch also assesses the engineering feasibility of developing newly-discovered resources on Canada lands and determines allowable rates of production of completed wells.

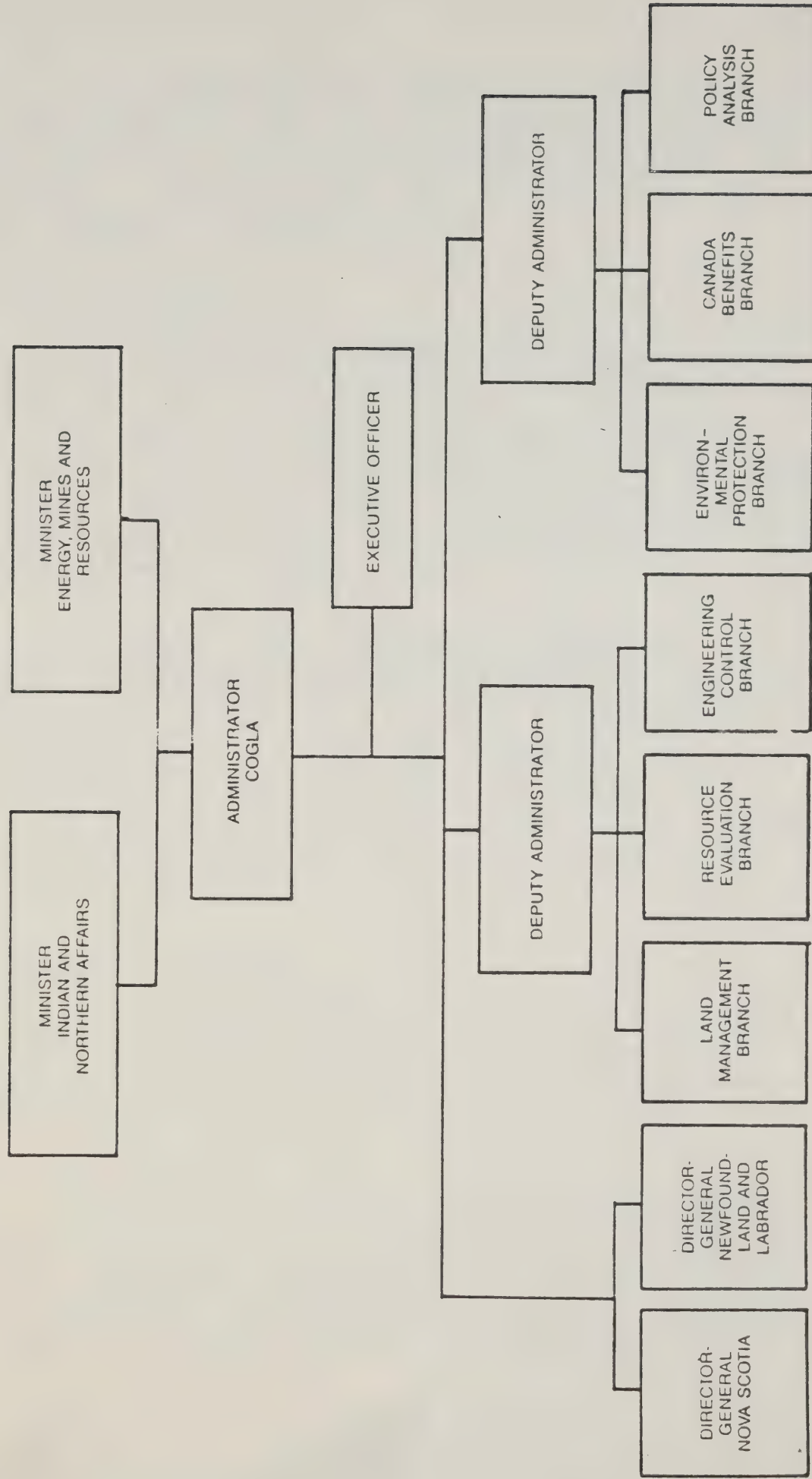


FIGURE 1.2

It is clear that this branch is of prime importance for the purposes of this study and hence is the branch to which particular attention is concentrated in this assessment. However, for the sake of completeness, the other branches are briefly described.

2) LAND MANAGEMENT

The Land Management Branch is responsible for the negotiation, issuance and administration of exploration and production rights. The Branch negotiates individual exploration agreements, normally on the basis of submissions received in response to a public Call for Proposals or as a result of a direct issuance of rights, which the Minister is entitled to make in certain cases.

The Branch issues, records and administers exploration agreements, records and accounts for guarantee work deposits, annual rentals and basic and progressive incremental royalties and approves expenditures to be allowed for credit against agreement obligations. The Branch is also responsible for the registration of interests in the Canada lands and for the approval of transfers of interests.

3) RESOURCE EVALUATION

With respect to safety, this branch is responsible for identifying seabed, surface and subsurface geological hazards that might affect the safety of a drilling or production operation, or of a transportation system.

Both the Land Management Branch and the Engineering Branch are assisted by the Resource Evaluation Branch, which approves geophysical and geological programs, evaluates and manages geological and geophysical information submitted by operators and assesses the oil and gas potential of all

Canada lands offshore and in the North as a basis for resource management policies. The Branch makes estimates of discovered reserves and undiscovered potential resources.

4) ENVIRONMENTAL PROTECTION

The primary responsibility of this branch with respect to safety is the evaluation and approval of contingency plans covering both environmental and personnel safety in the event of apprehended or actual disasters.

The Environmental Protection Branch is responsible for ensuring that projects are environmentally safe with respect to biological and physical regimes, and acceptable to relevant coastal communities, by assessing the environmental implications of offshore petroleum and mineral activities. Concerns in this regulatory forum relate to marine and coastal biota, oil spill counter-measure research and studies as well as the effects of weather, ocean and ice conditions on offshore operations. The Branch is responsible for the management of the Southern (EMR) Environmental Studies Revolving Fund.

The Northern Affairs Program (DIAND) is responsible for the provision of environmental management services to COGLA in relation to oil and gas activities in the northern Canada lands. The Environmental Protection Branch also works in close collaboration with the Departments of Transport (DOT), Environment (DOE), Fisheries and Oceans (DFO) for environmental matters.

5) CANADA BENEFITS

The Canada Benefits Branch is responsible for ensuring that Canada Benefits plans submitted by operators seeking exploration agreements or specific work or activity authorizations are satisfactory to the Minister. Such plans

are required by the Canada Oil and Gas Act prior to the commencement of any work program under an exploration agreement and by the Oil and Gas Production and Conservation Act before any specific work or activity is authorized.

The Branch ensures that relevant federal and provincial departments and agencies are informed of company plans and have the opportunity to comment on the effects of proposals. In particular, the Branch works in close collaboration with the Canada Employment and Immigration Commission (CEIC) as well as with the Office of Industrial and Regional Benefits (OIRB) of the Department of Regional Industrial Expansion (DRIE). The Branch also works in close collaboration with the Northern Affairs Program of DIAND, which, in cooperation with the territorial governments, remains responsible for socio-economic benefits for residents of the territories.

6) POLICY ANALYSIS AND COORDINATION

The Policy Analysis and Coordination Division is responsible for coordinating roles and responsibilities between COGLA and other federal departments and provincial governments bodies. It is responsible for the analysis, development, interpretation and implementation of policy with respect to the management of oil and gas activity in the Canada lands as well as for the provision of information on resource management policy groups within EMR and DIAND, coordinates policy-related work of the COGLA Branches and provides secretariat support to the Policy Review Committee and to the Canada-Nova Scotia Offshore Oil and Gas Board.

1.1.3 Regional Offices

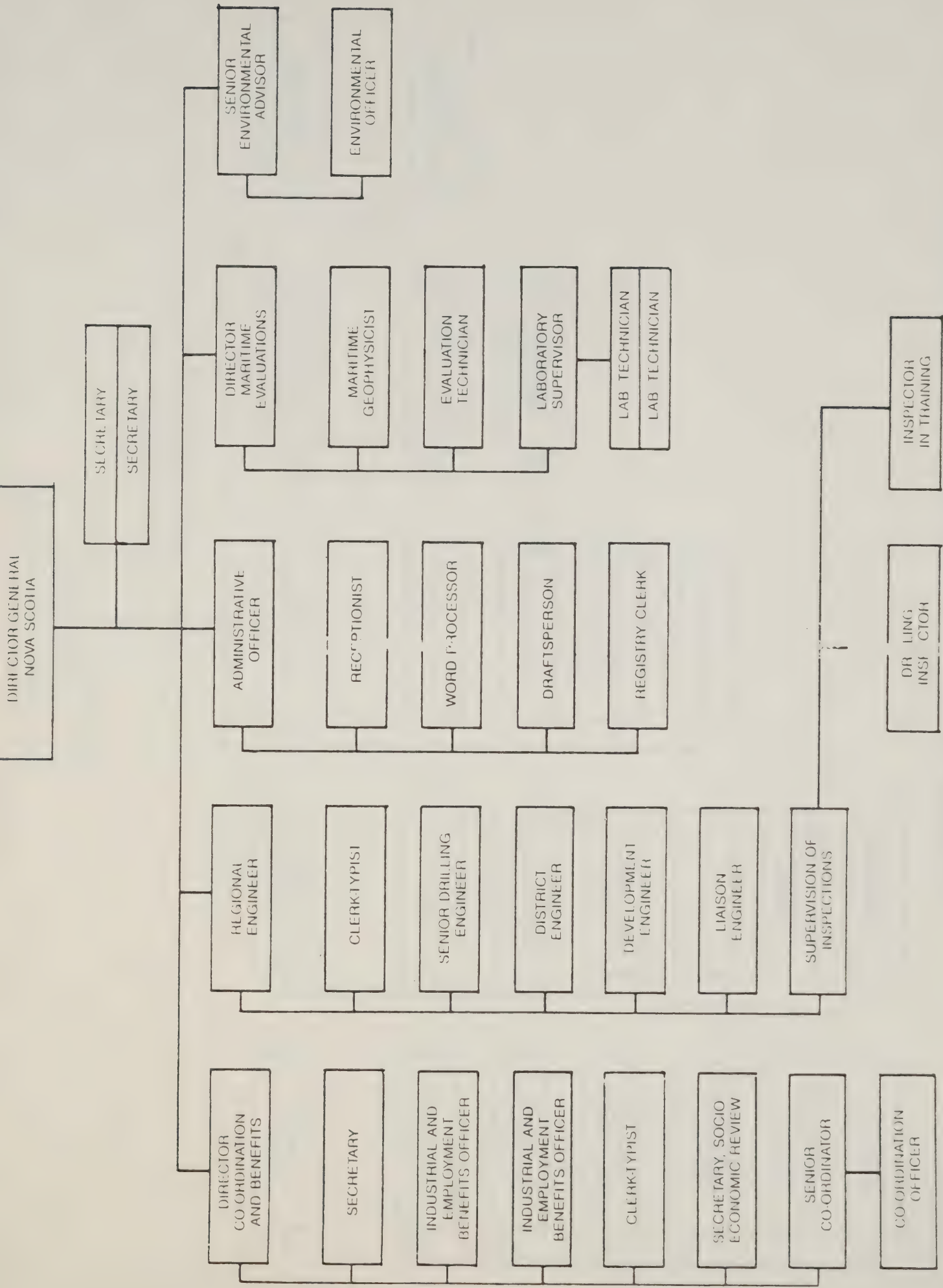
In addition to the six administrative branches described above, COGLA also maintains two regional offices

in the Study Area, with responsibilities for the (1) Nova Scotia and (2) Newfoundland and Labrador Sectors. Each office is headed by a Director General. The organization of each regional office is given in Figures 1.3 and 1.4. The Nova Scotia office has existed longer and is larger and more developed than the Newfoundland office.

The function of the regional offices in the regulation of safety offshore is to represent COGLA responsibilities and requirements on a regional level. In particular, the regional office is responsible for interpretation of COGLA's safety requirements to regional operators, for liaison with representatives of industry and provincial governments on safety issues, and for the monitoring and inspection of offshore operations for compliance with COGLA safety regulations. The regional office is also responsible for granting the "Authority to Drill a Well", as described in Section 2.3 below.

The role of site specific and regional monitoring and inspection of operations is perhaps the most important function of the regional offices. In this regard, they exercise discretion on most issues on a regional level, with provision for appeal to Ottawa headquarters if needed.

Since COGLA is mandated to carry out all administrative responsibilities for regulation and management of the offshore petroleum resource under the terms of the Canada-Nova Scotia Offshore Agreement, the COGLA Nova Scotia office is responsible to the joint Canada-Nova Scotia Oil and Gas Board which administers this agreement, as well as to the COGLA Ottawa headquarters.



ORGANIZATIONAL CHART — COGLA, NOVA SCOTIA REGIONAL OFFICE

FIGURE 1.3

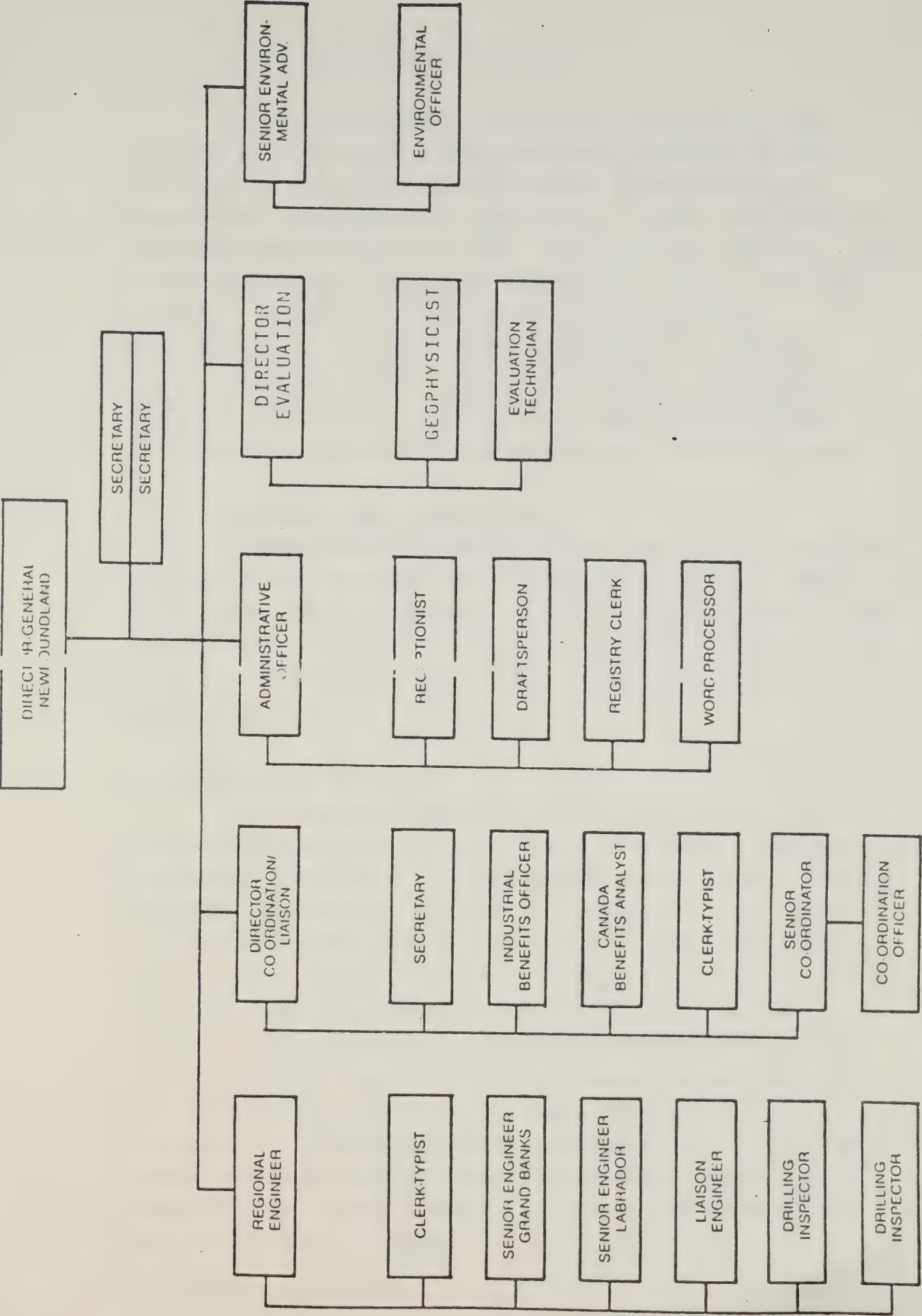


FIGURE 1.4

ORGANIZATIONAL CHART - COGLA, NEWFOUNDLAND REGIONAL OFFICE

1.2 OTHER FEDERAL ORGANIZATIONS

Within the federal government a number of other programs and agencies, either directly mandated by legislation or by virtue of administrative arrangement with COGLA, have responsibility for certain aspects of offshore petroleum exploration activity. The principal of these are the Canadian Coast Guard and the National Search and Rescue Program. In addition a number of in-line federal departments are involved in the regulation of offshore safety. The departments involved and their interrelationship with each other and COGLA are summarized in Figure 1.5. The specific responsibilities of each are described below.

1.2.1 Canadian Coast Guard (CCG)

A memorandum of understanding, setting out the terms and conditions for cooperation between the CCG and COGLA with respect to the provision of CCG marine services to the offshore areas of petroleum development, was signed on July 22, 1982. The text of this memorandum is included in Appendix A2.

A. MANDATE AND AUTHORITY

The principal federal agency outside COGLA with direct responsibility for the safety of offshore petroleum exploration operations is the Canadian Coast Guard. CCG's responsibilities lie in the control and approval of design and construction of marine aspects of drilling units and support vessels and their related safety systems, as well as the operations, equipping and marine staffing of such vessels. The authority to regulate these matters derives from the Canada Shipping Act, in the case of Canadian flag rigs and vessels and under the terms of the CCG/COGLA Memorandum of Understanding (see Appendix A2) in the case of foreign registered drilling units and their support craft operating under COGLA license, in the area seaward of the territorial sea of Canada.

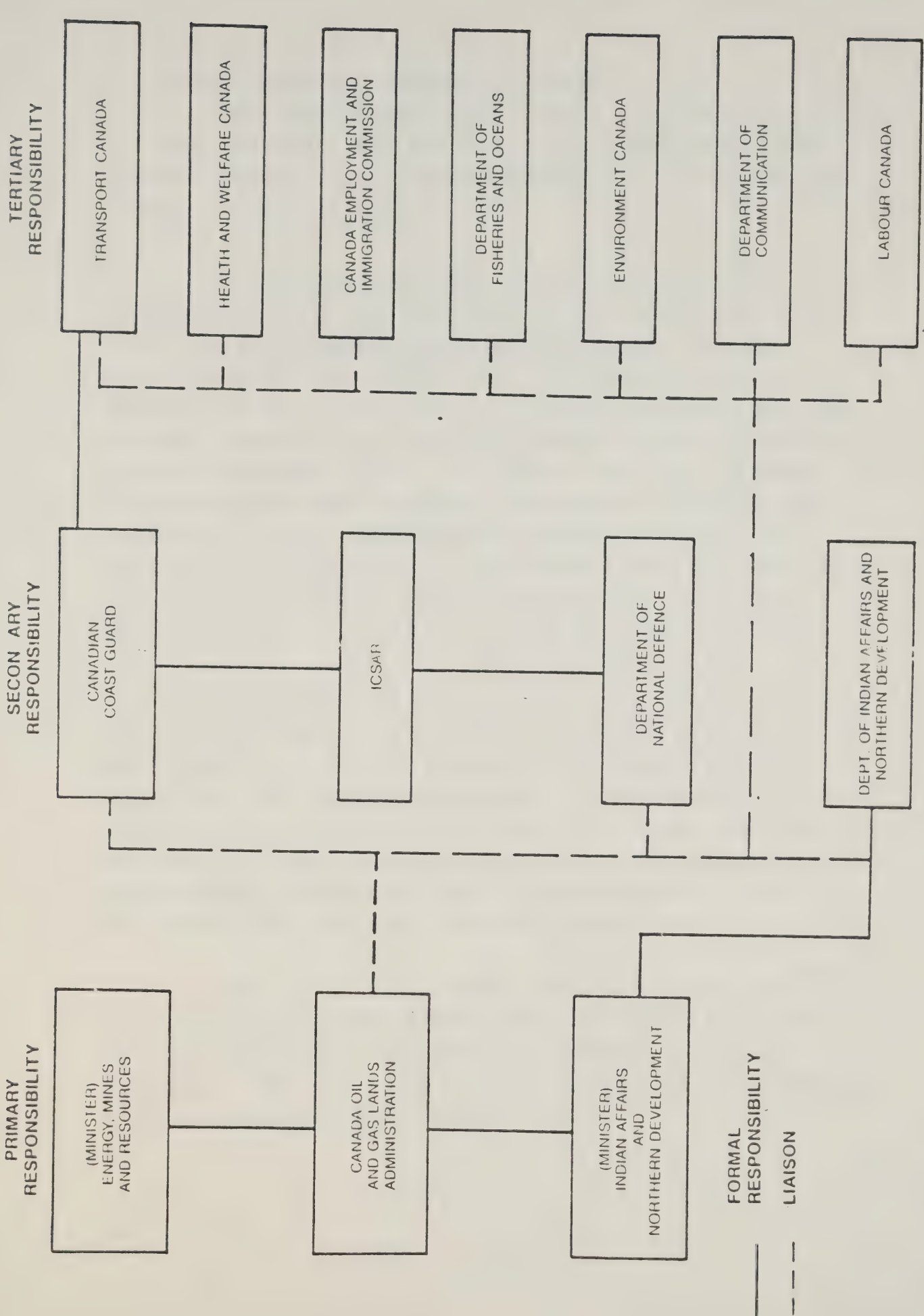


FIGURE 1.5

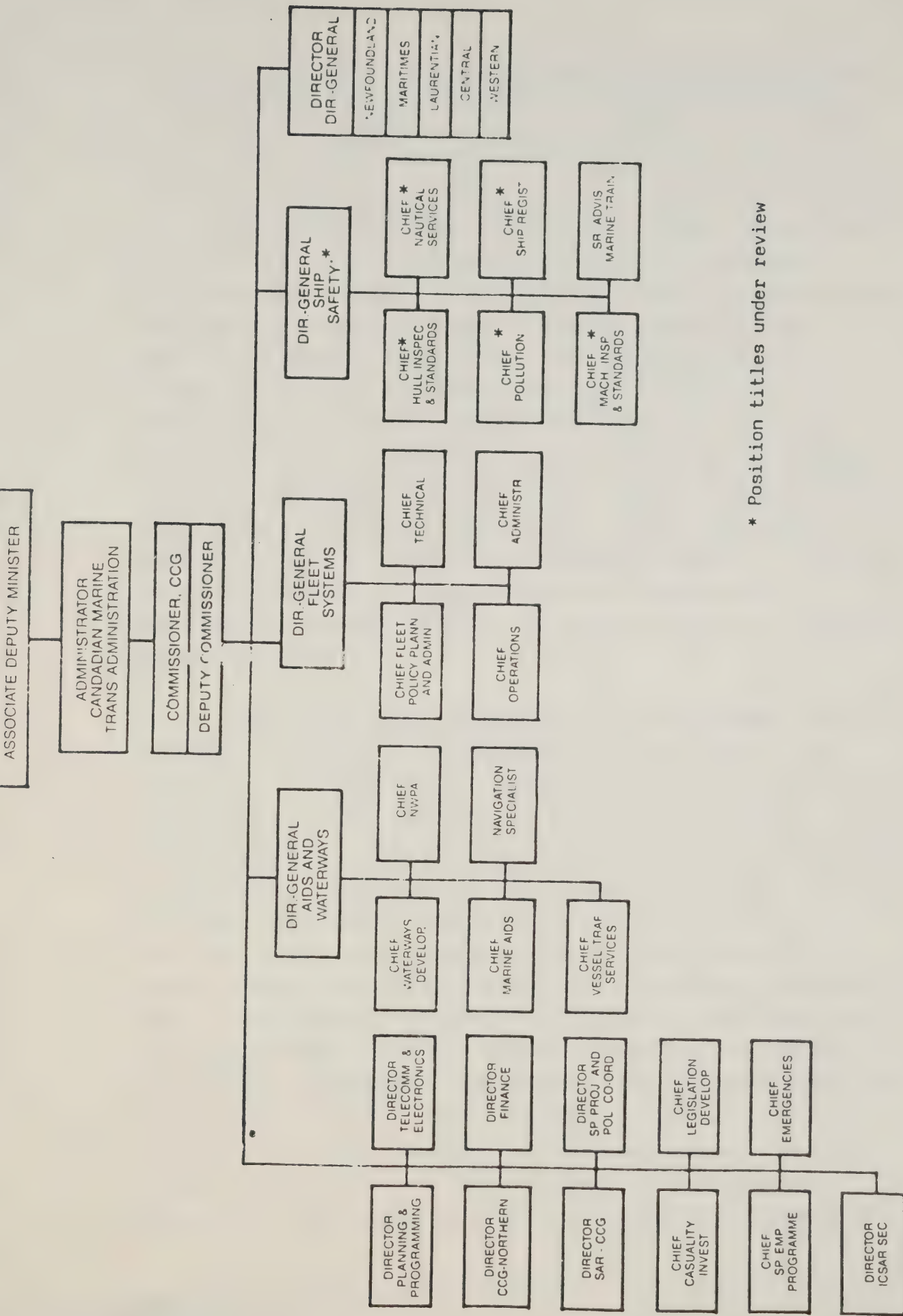
COGLA INTER-RELATIONSHIPS WITH FEDERAL DEPTS. FOR SAFETY OFFSHORE

B. ORGANIZATION AND RESPONSIBILITIES

The organization of the CCG is illustrated in Figure 1.6. As indicated, the CCG is run by a Commissioner who reports directly to the Administrator of the Canadian Marine Transport Administration.

Of the seventeen positions reporting to the Commissioner, the most important in the context of this study, is the Director General, Ship Safety. He is accountable for the formulation and implementation of legislation and regulations, and safety standards for the design, construction, operation and maintenance of mobile offshore drilling units, air cushion vehicles, of ships, their machinery and equipment, navigation, handling and stowage of cargo; qualification and certification and training of ship personnel; maintenance of a Register of Canadian ships and the prevention of pollution by ships; contributing to the formulation and development of Coast Guard policies, objectives and priorities; making significant recommendations in areas that impact nationally and internationally on the safety of Marine Transportation; participating in the development of Transport position on safety and anti-pollution measures in international marine forums and vis-a-vis other nations with mutual interests; and ensuring that Canada's international obligations re marine safety matters are met. The incumbent is also Chairman of the Board of Steamship Inspection.

Four of the five "chief" positions reporting to the Director General, Ship Safety have responsibilities for different aspects of the safety of offshore drilling activity. The titles and responsibilities of these relevant positions are described below.



* Position titles under review

FIGURE 1.6

The Chief of the Design and Construction Division is accountable for all ship design functions and their related safety systems pertaining to safety of life and property at sea by controlling and approving, under the authority of the Canada Shipping Act, the designs and safety systems of all commercial ships, Arctic class vessels and floating drilling structures such as mobile offshore drilling units (MODU's); to the extent they are ships under the CSA is accountable under the appointment by the Minister as Deputy Chairman of the Board of Steamship Inspection for Board rulings made under Section 370 of the Canada Shipping Act; is accountable under the CCG/COGLA Memorandum of Understanding for the safety of all foreign registered drilling units and their support craft operating under COGLA licence; is accountable for the development of appropriate safety standards by keeping abreast of advancing design technology; is accountable for Research and Development Programs relating to ship and drilling structure design functions.

The Chief, Ship Operations, is accountable for the planning, development, implementation, management and control of national safety standards and regulations for the navigation, routing and traffic separation of ships; radio and navigation installations; loading, handling and stowage of dangerous, hazardous and other special cargoes; manning of ships; emergency procedures for ships and offshore drilling units; cargo handling and mooring equipment; health, safety and working practices of persons employed on ships; firefighting equipment; life-saving appliances and survival systems for ships and offshore drilling units; construction, equipment and operation of pleasure craft; the registration of ships; the licensing of small craft and assessment of ships tonnage, all in compliance with the Canada Shipping Act and International Conventions and Agreements. Incumbent is a Senior Member of the Board of

Steamship Inspection which gives decisions in respect of exemptions and equivalences issued to ships when full compliance with regulations is not possible or practical or when unusual features are presented.

The Chief, Training and Certification is accountable for the training and certification of ship personnel and the central registry of seamen.

The Chief, Planning and Special Projects is accountable for the development of Ship Safety Regulations, Research and Development and Pollution Prevention.

CCG also has responsibility for marine aspects for the National Search and Rescue Programme. This aspect of CCG's function will be addressed in Section 1.2.2 below.

C. REGIONAL CCG OPERATIONS

CCG maintains two regional operations within the study area both headed by a Regional Director; these are the Maritimes and Newfoundland Regions. These regions do not coincide with the corresponding COGLA regions. Mirroring the Central organization, each regional office has a group of regional managers responsible for different aspects of CCG operations. In the context of this study, the positions of prime importance are the Regional Manager, Search and Rescue, and the Regional Manager, Ship Safety.

The Regional Manager, Ship Safety for each region is responsible for a staff of surveyors and inspectors whose job it is to ensure compliance with CCG requirements for construction, equipping, manning and operation of all vessels within their jurisdiction.

The Regional Manager is responsible for planning, co-ordinating and directing the activities of field offices with reference to the safe working conditions of employees in the Marine Industry and the safe passage of people in marine transportation. He has delegated authority to administer some provisions of the Canada Shipping Act and must ensure that owners, charterers and operators of ships comply with this law. He is responsible for issuance of inspection certificates and is periodically required to take action forcing companies to comply fully.

The Regional Manager develops plans and priorities to ensure the national standard for safety and environment protection in marine transportation is applied, while remaining cognizant of operating requirements and cost-effectiveness in relation to socio-economic impact. This function will be increasingly important as local construction and operation of oil drilling rigs and offshore supply vessels inevitably expand.

The Regional Manager, SAR, has primary responsibility for marine Search and Rescue activity in the region. SAR is discussed below.

1.2.2 National Search and Rescue Programs

A. MANDATE AND OBJECTIVES

In Canada, SAR is an integrated federal program developed historically from individual air and marine requirements. A true form of integration of the efforts of federal departments began in 1976 with the formation of the

Interdepartmental Committee on Search and Rescue (ICSAR) and the associated development of the annual National SAR Plan. The minister responsible for SAR is the Minister of National Defence and ICSAR is the Agency responsible for advising the minister on SAR. The policy formulation, planning and coordinating activities of that committee are performed by the SAR Secretariat, a unit composed of line department officials.

The Cabinet Decision on Search and Rescue, issued August 3, 1982, established "a clearly defined line of responsibility for policy-making, planning, programming, monitoring and review" of SAR running from the Lead Minister through a single chairman of ICSAR, supported by a full-time Secretariat, to the line departments. It is agreed that ICSAR and its Secretariat are extra-departmental institutions which must play a proactive role in the management of the SAR program. Such a proactive role includes, inter alia, the provision of policy and planning guidance within which line departments will develop specific planning proposals and carry out various program tasks.

The following responsibilities of ICSAR are specifically set out in the above decision. With the recognition of Search and Rescue as a formal federal program, and the role of ICSAR as its "Management Focus", they contribute to a clearer meaning of these terms:

- Coordinating the development of improved management and financial control and reporting systems, and the operations research, costing models and data bases to support them
- Structuring a long term national SAR Program Plan

- Developing policies to achieve the best balance between the use of primary and secondary SAR resources to achieve the most cost-effective mix
- Developing policies for the use of SAR resources in non-distress incidents
- Reviewing and developing the coordination of SAR related research and development
- Coordinating the publication of an annual review of SAR incident characteristics
- Coordinating SAR public information programs regarding the delivery of SAR services
- Developing and maintaining a National SAR Manual
- Coordinating and developing SAR operations and prevention policies

The Secretariat to ICSAR is the staff that supports the management of the federal SAR program. The mandate of the Secretariat consists of:

coordinating and integrating SAR program structure development, the planning process, and the policy development process; assessing departmental input to the foregoing; advising ICSAR on interdepartmental program issues; coordinating and/or carrying out staff studies at the direction of ICSAR; providing a single source of information on the SAR program; developing and maintaining SAR program information systems; and, providing ICSAR with staff support for its meeting.

B. OVERALL FEDERAL SAR ORGANIZATION

The primary federal departments involved in the National SAR Program are the Department of National Defence (DND) and the Department of Transport - both the marine component (CMTA) and the civil aviation component (CATA).

The roles and responsibilities of the principal Federal Departments involved in SAR are illustrated in Figure 1.7.

The Department of National Defence is responsible for co-ordinating all air and marine search activities in Canada and adjacent areas for which Canada has accepted responsibility under international agreements. The Minister of National Defence is the minister responsible for the National Search and Rescue Program . The Department is also responsible for providing dedicated air resources to respond to both air and marine distress incidents.

The Department of Transport is responsible for providing dedicated marine resources for marine incidents and for assisting the Department of National Defence in co-ordinating responses to marine incidents. It is also responsible for the air and marine accident prevention aspects of Search and Rescue. In addition, the Department of Transport principally through its Air Traffic Control Units, Flight Service Stations, Coast Guard Marine Radio Stations and Vessel Traffic Management Centres, can detect air craft and vessels in need of SAR assistance/aid and hence, alert the Rescue Co-ordination Centres and the Marine Rescue Sub-Centres.



Fig 1.7

| | |
|--------|---|
| SAR | SEARCH AND RESCUE |
| ICSAR | INTERDEPARTMENTAL COMMITTEE ON SEARCH AND RESCUE |
| DND | DEPARTMENT OF NATIONAL DEFENCE |
| DOT | DEPARTMENT OF TRANSPORT |
| CCG | CANADIAN COAST GUARD |
| CATA | CANADIAN AIR TRANSPORTATION ADMINISTRATION |
| DFO | DEPARTMENT OF FISHERIES AND OCEANS |
| AES | ATMOSPHERIC ENVIRONMENT SERVICE |
| TBS | TREASURY BOARD SECRETARIAT |
| PCO | PRIVY COUNCIL OFFICE |
| FDP-CL | FOREIGN AND DEFENCE POLICY-CABINET LIAISON |
| FDP-SP | FOREIGN AND DEFENCE POLICY-SECTOR POLICY AND COORDINATION |
| MISERD | MINISTRY OF STATE FOR ECONOMIC AND REGIONAL DEVELOPMENT |
| DOC | DEPARTMENT OF COMMUNICATIONS |
| COGLA | CANADIAN OIL AND GAS LANDS ADMINISTRATION |

The Department of Fisheries and Oceans may be secondarily tasked to provide marine resources for marine incidents. In fact, it had designated 17 vessels in 1981/82, as multi-tasked for the SAR role. The remaining 250 (approximately) respond to SAR, as do all other vessels, under section 445 of the Canada Shipping Act and the provisions of Cabinet Directive 22 (1951) which applies to all federal government departments.

The Royal Canadian Mounted Police air and marine units may be secondarily tasked and land units play a role in the verification of SAR incidents as part of their normal policing duties. In jurisdictions where RCMP provides police services, they are also responsible for enforcement when breaches of certain air and marine regulations (such as the Small Vessel Regulations) are identified by Department of Transport inspectors and Coast Guard Officers.

The activities performed by specific departments may be categorized as follows:

a) Information gathering from all sources on possible SAR incidents and notifying Rescue Co-ordination Centres;

- Department of Transport (CATA) alerting posts, communications networks and systems;
- Department of Transport (CMTA/CCG) communication networks and systems;
- Department of National Defence (DND) communications systems;
- RCMP and other police forces;
- Others.

b) Locating aircraft, vessels and people in distress (state and private aircraft, vessels and ground parties).

c) Saving survivors of air/marine distress incidents and minimizing damage to property, as well as responding to humanitarian and civil aid request (state and private aircraft, vessels and ground parties).

d) Regulating, including the development and promulgation of air and marine safety and personnel survival standards, regulations, orders and directives;

- Department of Transport, CATA and CMTA/CCG;
- Department of National Defence for military operations;
- Department of Communications;
- Department of Health and Welfare.
- COGLA

e) Investigating events that lead to air and marine SAR incidents, establishing causes and notifying other agencies of investigation findings;

- Department of Transport, (CATA), Aviation Safety Bureau;
- Department of Transport, (CMTA/CCG), Casualty Investigation Branch;
- Department of Transport, Regional Accident/Casualty Investigation units;
- Department of National Defence.

f) Enforcing compliance with air and marine safety standards and regulations;

- Department of Transport CATA and CMTA/CCG;
- Solicitor General, RCMP;
- Department of Justice.
- Provincial and Municipal Policies

g) Educating aviation and marine communities on accident/incident prevention and promoting air and boating safety;

- Department of Transport (CATA), Aviation Safety Bureau;
- Department of Transport (CMTA/CCG), Ship Safety Branch, Search and Rescue Branch;
- Department of National Defence SAR briefing teams.

h) Planning, co-ordinating and controlling SAR strategies, policies, goals, resource requirements, resource allocations and operations;

- Interdepartmental Committee on Search and Rescue (ICSAR) member departments (DND, DOT, DFO, DOE (AES), RCMP, and EMR);
- DND and DOT/CCG for co-ordination and control of SAR operations.

i) Utilizing service outputs of associated Program activities including those of federal, provincial, municipal and foreign governments and private organizations.

C. REGIONAL ORGANIZATION

The entire study area, with the exception of the very far northern offshore area, falls within the Halifax Search and Rescue Region (SRR). The Rescue Coordination Centre (RCC) for the region is located in Halifax. The area north of Central Baffin Island falls within the Edmonton SSR. The total area contained within the Halifax SRR is approximately 1.8 million square miles, of which 1.2 million square miles is water. (See Figure 1.8) In addition a Marine Rescue Subcentre exists at St. John's, which has responsibilities for marine aspects of SAR in the five SAR



FIGURE 1.8

EXISTING CANADIAN SAR DELIMITATION AND SAR BOUNDARIES

SAR areas around the Newfoundland and Labrador coasts. In practice SAR incidents occurring closer to St. John's subcentre might be handled from St. John's, with the Halifax RCC becoming involved depending on need of resources, especially if air resources are required.

1.2.3 Federal Departments with Secondary Responsibility for Safety Offshore

1. DEPARTMENT OF COMMUNICATIONS

This department has legislative responsibility within Canada for the assignment of broadcast frequencies including emergency broadcast frequencies and for the licensing of radio stations and radio operators pursuant to the Radio Act. Personnel qualifications and equipment standards and licensing categories for Canadian flag vessels are the responsibility of CCG. However, responsibility for certain inspections of these personnel and equipment has been delegated to Department of Communications DOC inspectors. For foreign flag vessels, DOC inspectors carry out inspections for compliance with the Safety of Life at Sea (SOLAS) convention requirements for personnel and equipment. These functions have significant implications for the safety of offshore operations especially in the event of an emergency/mayday situation.

For foreign flag rigs operating outside the 12 nautical mile limit, DOC inspects to CCG or COGLA standards only at CCG or COGLA's invitation, and any such requirements would be in addition to foreign flag requirements. There appears to be no formal agreement in place between COGLA and DOC for the provision of such services, although DOC personnel are consulted on an as needed basis by COGLA. CCG requirements include CSA radio requirements whereas COGLA has separate requirements under Section 54 of the Canada Oil and Gas Drilling Regulations.

2. TRANSPORT CANADA

As described above, the Canadian Marine Transport Administration (CMTA) is the parent organization for both the Canadian Coast Guard. The Canadian Air Transport Administration (CATA) is responsible for regulation of all civil air transport in Canada. In particular, CATA thus has responsibility for all aspects of helicopter transport to and from offshore rigs. This includes setting standards for all helicopter equipment and flight personnel, in-flight operations and procedures, and designation of allowable conditions for take-off and landing. CATA also establishes requirements for the design and equipment for all air terminal facilities on land. Although responsibility for the design, construction and equipment for drill unit heliports offshore lies with COGLA, these requirements were determined in consultation with Transport Canada officials.

3. ENVIRONMENT CANADA

This department is involved in three areas affecting safety offshore:

a) The Environmental Protection Branch is involved in assessing contingency plans submitted by operators.

b) The Atmospheric Environment Service (AES) advises COGLA on standards, procedures and personnel qualifications for offshore meteorological observations and site-specific forecasting services provided by private contractors, including Aviation weather observations and forecasts and ice observations. Its Ice Central Facility is responsible for mapping of sea ice conditions.

c) Under the terms of a formal agreement between COGLA and AES, AES provides to COGLA standard weather and

ice data products, and AES staff, on a central and regional basis, provide more detailed information on weather and ice conditions at the request of COGLA.

4. DEPARTMENT OF FISHERIES AND OCEANS (DFO)

This department is involved in two aspects of offshore activity:

a) DFO is involved in the assessment of contingency plans and environmental impact submissions particularly as they affect the East Coast fisheries.

b) DFO officials may advise COGLA on requirements for collection of oceanographic data such as current and wave conditions at rig sites. In particular, in the past the Marine Environmental Data Service (MEDS) has been responsible for waverider equipment and processing of wave data collected. Recently operators have been required to supply such equipment to MEDS specifications.

In general such groups as MEDS and AES are regarded as resource agencies within government and are used by COGLA on an as needed basis whenever advice is required in their particular area of expertise.

5. DEPARTMENT OF INDIAN AND NORTHERN AFFAIRS (DIAND)

The role of DIAND North of 60° and its relationship with COGLA is described in Section 1.1 above. In particular, it is noted that DIAND retains responsibility for environmental protection and local employment and benefits in this area, although COGLA would have responsibility for engineering and personnel safety aspects of drilling activity.

6. CANADA EMPLOYMENT AND IMMIGRATION COMMISSION (CEIC)

CEIC under the terms of a Memorandum of Agreement with COGLA assists in location and hiring of qualified

personnel, and the training of suitable candidates for offshore positions as part of governments policy of giving first preference to and increasing the number of Canadians qualified for offshore employment. Together with the Canada Benefits Branch of COGLA, they are responsible for setting Canadian employment quotas. CEIC must also approve all foreign workers employed offshore.

7. HEALTH AND WELFARE CANADA

Health and Welfare Canada have been asked to advise COGLA on health aspects of employment in offshore petroleum exploration. Subjects for consideration include hyperbaric medicine and treatment of victims of hypothermia. An advisory committee consisting of three industry doctors, three doctors from East Coast medical schools and two doctors from Health and Welfare Canada, chaired by the Director-General Engineering and Control has recently been created to officially advise COGLA on these subjects. This appears to be the only involvement of Health and Welfare in regulation of safety offshore.

8. LABOUR CANADA

This department is responsible for administration of the Canada Labour Code, including provisions concerning Occupational Health and Safety in the workplace. A committee between COGLA and Labour Canada reviewed potential conflicts between the Canada Labour Code and COGLA legislation.

1.3 PROVINCIAL ORGANIZATIONS

1.3.1 Newfoundland and Labrador

A. THE NEWFOUNDLAND AND LABRADOR PETROLEUM DIRECTORATE

The Newfoundland and Labrador Petroleum Directorate is responsible for the management of petroleum exploration

and development in the waters off Newfoundland and Labrador as established by the Newfoundland Petroleum and Natural Gas Act.

NLPD was originally formed as part of the Department of Mines and Energy and was established as a formally separate and distinct organization in its own right in November, 1979, by an Order-in Council under the authority of the Minister of Mines and Energy. More recently, in 1981, a "Minister responsible for the Petroleum Directorate" was appointed distinct from the Minister of Mines and Energy.

In general terms, the Petroleum Directorate is responsible for the overall management of the Province's oil and gas resources and for the development of legislation pertaining to the technical and policy issues surrounding petroleum exploration, development and production. Under the direction of the responsible Minister, NLPD negotiates exploration agreements, authorizes all exploration and production activities and inspects operations associated with these activities. Although several departments and agencies within and outside the provincial government are involved in the provincial regulatory regime, the NLPD is the principal administrative body responsible. The NLPD is responsible for overall coordination of the activities of other provincial departments as they relate to offshore petroleum activity.

The overall structure of the NLPD is set out in the organization chart (Figure 1.9).

NLPD is headed by an Executive Director, who has authority for ongoing operational decisions as provided for under existing regulations. The Executive Director bears

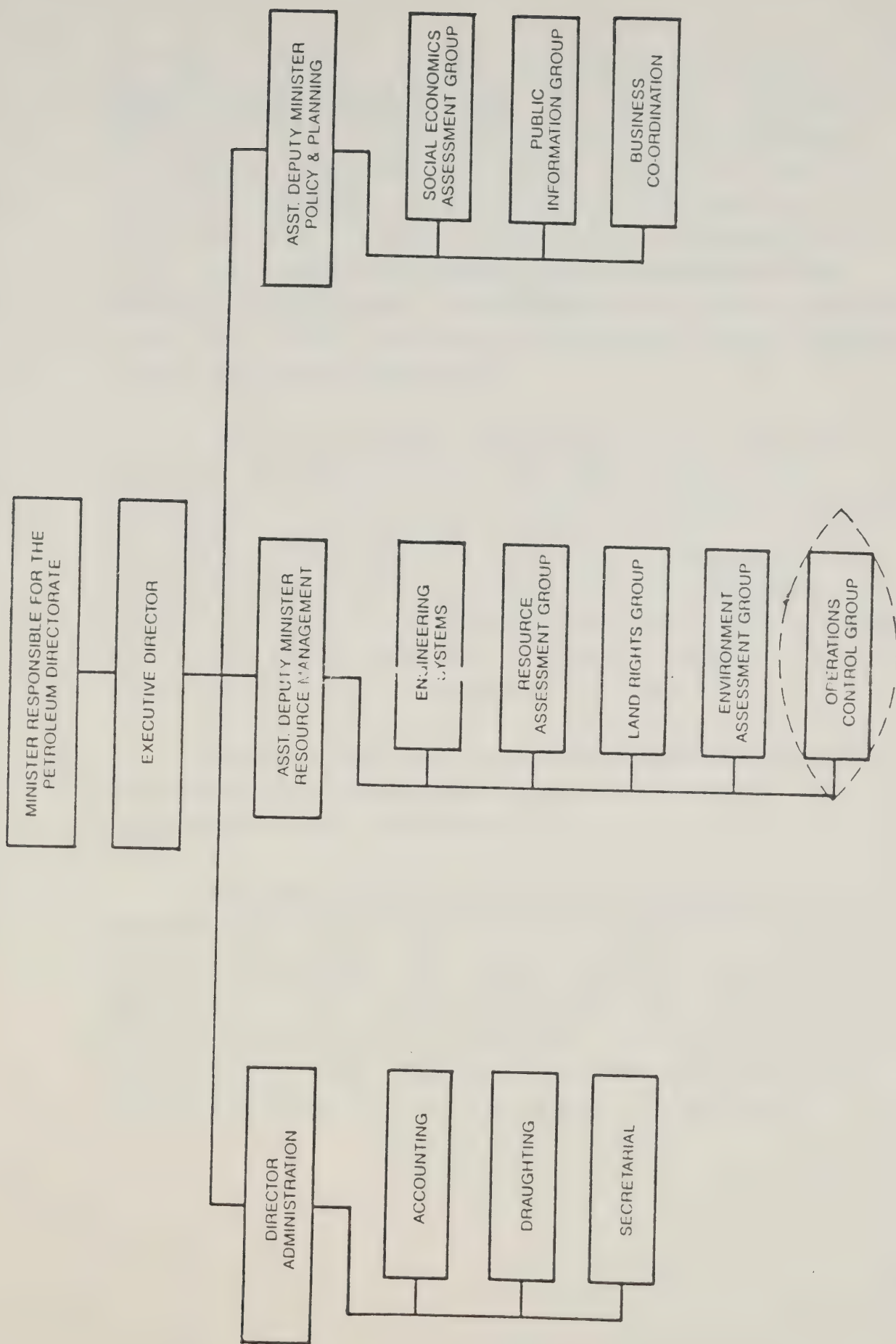


FIGURE 1.9

principal responsibility for implementation of The Petroleum and Natural Gas Act. The Executive Director reports to the "Minister responsible for the Petroleum Directorate" and receives direction from him on how to relate NLPD operation to overall government policy. A policy and planning group within NLPD is responsible for social and economic assessment, public information and business co-ordination. Responsibility for safety-related issues lies within the Resource Management group, headed by an Assistant Deputy Minister.

Within the Resource Management section one group of personnel is responsible for the administration and enforcement of regulations covering the safety of offshore operations. The managerial and technical personnel responsible for operations safety form the "OPERATIONS CONTROL" group of the Petroleum Directorate, which, together with allied groups directly involved in regulation of operations safety is illustrated in Figure 1.10.

The principal positions within NLPD with direct involvement in offshore safety and their areas of responsibility are given below.

The Chief Offshore Operations Inspector supervises offshore operations inspectors and co-ordinate inspection activities with other provincial and federal government departments. This includes developing and implementing drilling regulations and guidelines. The Chief Offshore Operations Inspector engages consultants and liases with engineering firms to assist in operations control.

ENGINEERING
SYSTEMS
DIVISION

OPERATIONS CONTROL

ENVIRONMENTAL
ASSESSMENT
GROUP

CHIEF OFF SHORE
INSPECTOR

DRILLING
ENGINEER

MARINE SAFETY
CONSULTANT

OFFSHORE
OPERATIONS
INSPECTORS

OFFSHORE
INSPECTIONS
ENGINEERS

(Dept. of Labour & Manpower)

OCCUPATION HEALTH
AND SAFETY
INSPECTORS

The Drilling Engineer develops and implements regulations respecting the safe conduct of exploratory and development drilling operations. This involves the review of oil spill contingency plans and drilling programs, and monitoring offshore operations.

The Marine Safety Consultant advises on the safety and operating limits of offshore operations, and in the formulation of safety regulations. He/she liaises with education and training committees and other departments of government.

The Ocean Engineer (Environmental Assessment Group) has two main areas of responsibility. One is to evaluate engineering aspects of offshore operations, and the other is to manage environmental and safety matters. This involves the review of drilling programs, contingency plans and environmental assessments.

The Senior Structural Engineer plans, organizes and directs activities related to the engineering aspects of offshore petroleum, exploration and development.

B. OTHER NEWFOUNDLAND GOVERNMENT ORGANIZATIONS

The principal Newfoundland Government organizations outside the Petroleum Directorate which are involved in safety-related issues in the offshore are described below. Advice on policy and planning for offshore development is formulated by the Offshore Petroleum Impact Committee (OPIC) which is comprised of representatives of all provincial agencies involved and reports to the provincial cabinet.

As outlined in Section 2.1.3 and 2.4.2 of this report, the Department of Labour and Manpower administers the second part of the Newfoundland and Labrador Petroleum Drilling Regulations, 1982. Two inspectors from that department ensure that safety regulations are enforced in offshore operations and work with offshore inspectors at the Petroleum Directorate. Liaison is maintained through the "Operations Control" group of the NLPD.

Labour and Manpower is also the primary provincial department involved in implementing the province's requirements for local hiring practices as they apply to the offshore. In this regard, they liaise directly with the Canada Employment and Immigration Commission with respect to employment quotas and with other provincial departments, including the Department of Education and the Petroleum Directorate on issues related to education and training for offshore employment.

The Department of Education is involved in planning for education and training requirements for offshore employment through the Education and Training subcommittee of OPIC. In addition it is directly involved in advising provincial educational institutions on these requirements and has an internal committee which deals with education and training needs for the offshore petroleum industry.

The Department of Development is responsible for overseeing compliance with provincial requirements for preference for local goods and services in the offshore.

The Worker's Compensation Board is an agency of the Provincial Government responsible for administering compensation to workers injured or killed in industrial accidents.

Emergency Measures (EM) is a division of the Newfoundland Department of Justice responsible for dealing with peacetime disasters. It provides assistance during rehabilitation after an emergency. It is the first group to be contacted in an emergency situation according to the Province's "Accidental Occurrences Contingency Plan" established by the Petroleum Directorate. EM is responsible for coordinating all emergency resources and emergency response actions of the provincial government.

The Petroleum Directorate and these other provincial departments interact with a large number of agencies outside government on issues related to the safety of offshore operations. These interactions are described in Section 2.6 below.

1.3.2 Nova Scotia

On March 2, 1982, the Canada-Nova Scotia Agreement on Offshore Oil and Gas Management and Revenue Sharing was signed. Under the terms of this Agreement, the Canada Oil and Gas Lands Administration (COGLA)-Nova Scotia Office (CNSO) was established under the direction of the Canada-Nova Scotia Offshore Oil and Gas Board. COGLA was assigned with all of the administrative responsibilities with respect to oil and gas exploration activities in the Nova Scotia Offshore Region. The federal legislation, which sets the safety requirements for offshore exploration activity, was adopted for this region.

The organization of the Energy Section of the Nova Scotia Department of Mines and Energy is indicated in Figure 1.11. In the day-to-day administration by COGLA of activities in the Nova Scotia Offshore Region, which includes safety and training, Nova Scotia representatives participate in an advisory capacity in COGLA's dealings with industry. Staff of the Petroleum Resources Section of this department interface and liaise with other provincial departments, COGLA and Industry on offshore technical and operating matters such as drilling, safety, diving, training, production, regulations and environmental protection.

The Nova Scotia government has set up an Offshore Co-ordinating Committee (OCC) with representatives from Provincial Departments of Fisheries, Development, Environment, Finance, Labour and Manpower and Mines and Energy. The OCC reports directly to the Provincial Cabinet on all offshore issues. The Assistant Deputy Minister, Energy is a member of the OCC; he is also one of the two Nova Scotia members on the five person Canada-Nova Scotia Offshore Oil and Gas Board and thus is a most central and pivotal figure in the Nova Scotia Offshore Administrative set-up. In general, the Nova Scotia technical administration liaises directly with the COGLA Nova Scotia regional office. Resolution of any disputes is by representation to the joint Canada-Nova Scotia Board.

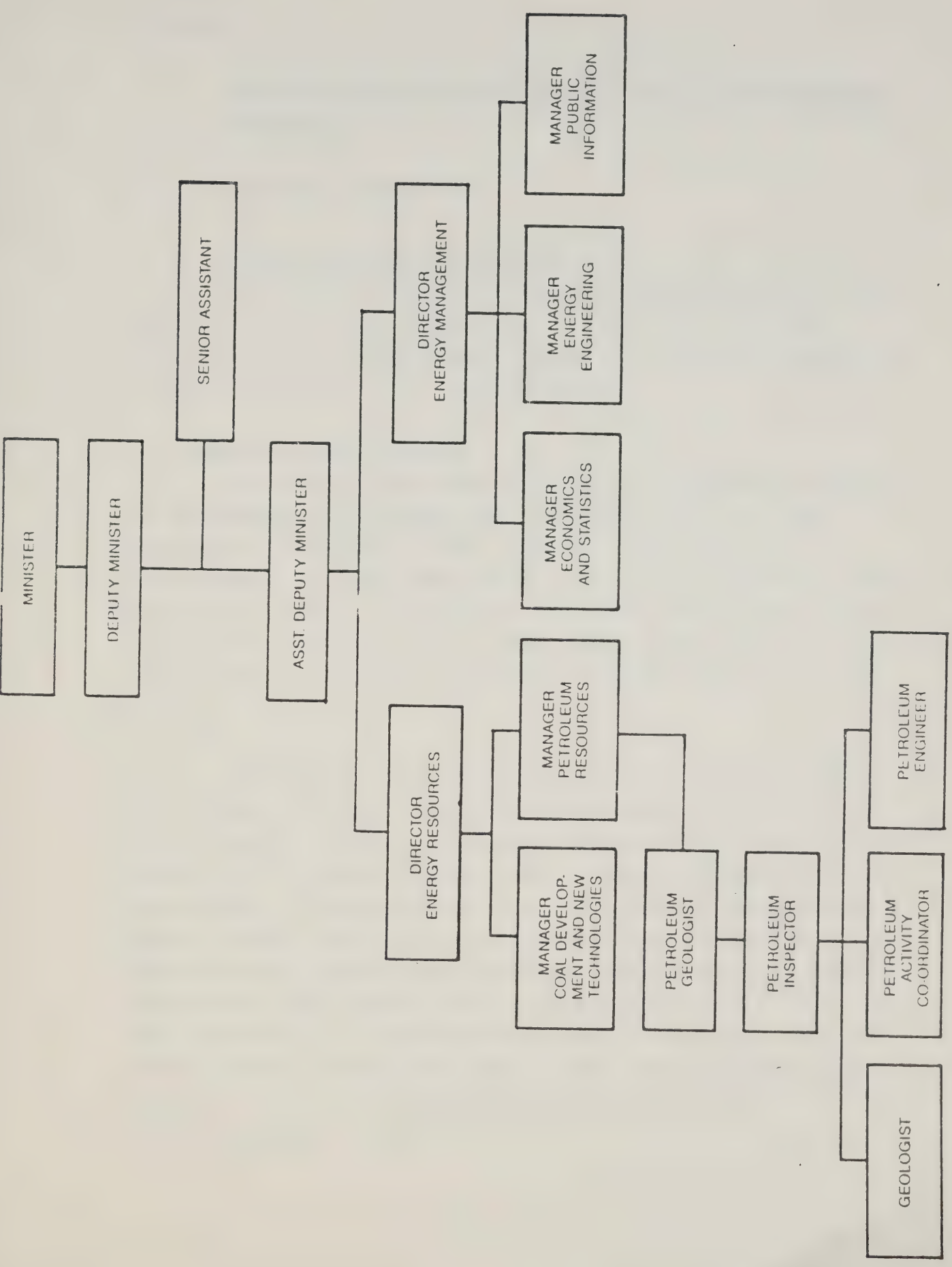


FIGURE 1.11

CHAPTER 2

THE ADMINISTRATION AND FUNCTIONING OF GOVERNMENTAL REGULATION

2.1 EXISTING LEGISLATION

2.1.1 Federal Energy Legislation

The National Energy Program proposed legislation to establish a new legal framework to govern oil and gas activity in the Canada lands. Among the relevant components of this legislation are the following:

A. CANADA OIL AND GAS ACT

One of the principal legislative elements of the NEP is the Canada Oil and Gas Act, passed as Bill C-48 and proclaimed on March 5, 1982. The Act sets out the requirements for the granting of oil and gas exploration and production rights, establishes the fiscal regime applicable to oil and gas activities in the Canada lands and includes transitional provisions for moving from the old to the new regime.

The Act is administered by the Minister of DIAND with respect to Canada lands situated north of the line of administrative convenience and by the Minister of EMR with respect to all other Canada lands. The Act allows the delegation to designated officials of such of the Minister's powers, duties and functions as may be specified. The Memorandum of Understanding between the Ministers of EMR and DIAND which established COGLA also appointed its Administrator as a designated official to exercise such of the Ministers' respective powers under the Canada Oil and Gas Act as well as the Oil and Gas Production and Conservation Act as specified.

B. OIL AND GAS PRODUCTION AND CONSERVATION ACT

In addition to the Canada Oil and Gas Act, Bill C-48 included amendments to the Oil and Gas Production and Conservation Act, which provides the framework for detailed technical and safety requirements for work and activity in the Canada lands.

The Act authorizes the Minister to issue operating licences and specific authorizations in the absence of which no oil or gas activity may take place in the Canada lands. Before authorizing any work or activity, the Minister may determine requirements and deposits relating to the operator's liability for damage or expenses, for the carrying out of environmental programs or studies and for the payment of expenses incurred by the Minister in approving the program. The Minister must also, prior to issuing any authorization, require the submission of a satisfactory Canada Benefits plan that may include affirmative action programs.

The amendments to the Act empower the Chief Conservation Officer who, as mentioned above, is the Administrator of COGLA, to make orders for the commencement, continuation, increase, decrease, cessation or suspension of oil and gas production under specified conditions, as well as to take over the management and control of any work or activity where a spill has occurred. The Act also establishes the liability, without proof of fault or negligence, of the operator for any damage or loss caused by a spill as well as for costs to the government for taking emergency action.

The Act empowers the Minister to make orders for the management and control of oil and gas production and authorizes the government to make regulations respecting exploration for oil and gas.

C. OIL AND GAS REGULATIONS

The Oil and Gas Production and Conservation Act and the Canada Oil and Gas Act form the main legislative basis of the regulatory regime administered by COGLA. The former regulations, which remain in force to the extent that they are consistent with the new regime, are being amended or replaced by new regulations, some of which are still in draft form. A list and summaries of the more important regulations are given below.

The Canada Oil and Gas Drilling Regulations set out the requirements for obtaining a Drilling Program Approval, an Authority to Drill a Well and for the actual drilling of a well on Canada lands. They also regulate well evaluation and termination, the inspection of drilling operations and equipment, environmental requirements and the investigation of accidents at drill sites.

The Canada Oil and Gas Production and Conservation Regulations (Draft) will provide for the approval of Development Plans in Canada lands. They will set out conservation, environmental, operational and safety requirements and will regulate such other matters as well and reservoir evaluations, production rates, measurement and testing and the inspection of operations and equipment at any production site.

The Canada Oil and Gas Geophysical Regulations (Draft) will set out the requirements for obtaining a Geophysical Program Approval on Canada lands. They will also regulate offshore and onshore geophysical operations as well as the inspection of geophysical operations and the investigation of accidents.

The Canada Oil and Gas Pipeline Regulations (Draft) will set out the requirements for obtaining and Approval to Construct a Pipeline and an Approval to Operate a Pipeline as well as the necessary certifications. They will also regulate the inspection of pipeline construction, authorized entry and inspection, environmental requirements and the testing, operation, maintenance and repair of pipeline facilities.

The Canada Oil and Gas Production Structures Regulations (Draft) will set out the requirements for obtaining a Production Structure Approval, a Production Facility Approval and a Production Operations Approval as well as other approvals and certificates. They will also regulate the inspection and testing of structures as well as the investigation of accidents.

The Canada Oil and Gas Diving Regulations (Draft) will govern the diving operations carried out in support of oil and gas activities and set out the requirements for obtaining the necessary certificates and Diving Program Approval.

The Canada Oil and Gas Interests Regulations (Draft) will govern the giving of notices relative to the transfer or surrender of oil and gas interests in Canada lands as well as the appointment of representatives or agents of interest owners.

The Canada Oil and Gas Operations Regulations set out conditions for obtaining an operating licence, a work authorization and for reporting an oil spill or other emergency.

The Environmental Studies Revolving Funds Regulations establish the administrative mechanisms for obtaining and dispersing the funds as well as the method of application and the types of studies eligible for payments from the funds.

2.1.2 Other Federal Legislation

A number of government departments outside EMR/COGLA have direct or indirect legislative responsibility in areas related to the safety of offshore petroleum activity. Legislation with relevance to offshore safety is described below.

A. THE CANADA SHIPPING ACT (CSA)

This voluminous piece of legislation and its attendant regulations constitute the basis for the entire administration of marine transportation in Canada. The legislator sets down standards for the design, construction, operation and maintenance of Canadian flag vessels, their machinery and equipment, navigation, handling and stowage of cargo, and qualification, training and certification of personnel.

By extension, the Act also applies to vessels operating out of Canadian ports. Since the Act does not apply to all foreign flag drilling units operating outside the 12 mile limit, CCG's involvement in regulation of certain units is by authority of COGLA. Recent proposed changes to this legislation have direct relevance to offshore drilling activities especially mobile ocean drilling units (MODU's); these changes are discussed in Section 2.7 below.

Among the regulations under the CSA of relevance to offshore operations are the Ship Station Technical Regulations which specify procedures, equipment and personnel and the Ships Station Radio Regulations which specify equipment characteristics and specifications for radio stations on board cargo vessels.

B. THE AERONAUTICS ACT

This legislation has relevance to offshore safety since it and its attendant regulations set out requirements for civil aviation in Canada including standards and qualifications for personnel equipment and procedures involved in air (helicopter) transport between offshore drilling units and shore. The Act is administered by the Canadian Air Transport Administration of Transport Canada.

C. THE RADIO ACT

This legislation has relevance to offshore safety in that it establishes the requirements in Canada for licensing of broadcast facilities and personnel. The Act is administered by the Department of Communication, whose inspectors are responsible for inspection and certification of equipment and personnel under this legislation. These officials, under the terms of an agreement between the Minister of Transport and the Minister of

Communications, are designated as responsible for conducting inspections for adherence to the Ship's Station Technical and Radio Regulations under the Canada Shipping Act. They may also inspect and issue certificates for compliance with international (SOLAS) requirements with respect to radio equipment.

2.1.3 Newfoundland and Labrador Legislation

The major pieces of Provincial legislation which govern safety in offshore operations in Newfoundland are the Petroleum and Natural Gas Act, administered by the Petroleum Directorate, and the Occupational Health and Safety Act, administered by the Newfoundland Department of Labour and Manpower. Three sets of regulations set out government policy on safety:

- Newfoundland and Labrador Petroleum Regulations, 1977
- Newfoundland and Labrador Petroleum Drilling Regulations, 1982
- The Offshore Installations Regulations, 1982 and amendment.

Several guidelines issued by the Petroleum Directorate are also relevant:

- Guidelines for the Approval of a Development Plan (1981)
- Guidelines on Design and Construction of Offshore Installations (1982)
- Guidelines on Winter Drilling Operations (1983).

The purpose and requirements of these regulations are briefly described below.

The Newfoundland and Labrador Petroleum Regulations, 1977 were the first regulations promulgated pursuant to the Petroleum and Natural Gas Act. They outline in broad terms the safety requirements to acquire an exploratory permit and production lease. The nature of inspections and operations control is also set out in general terms.

Additionally, these Regulations outline provisions whereby the Minister can intervene directly in the permittee's operations and prescribe whatever measures are necessary, including ordering a permanent or temporary halt to operations, where there is a threat to the safety of personnel.

The Newfoundland and Labrador Petroleum Drilling Regulations, 1982 are intended to ensure that all petroleum drilling operations are carried out in a safe and prudent manner. The regulations are organized into two main parts:

- Part I Drilling Equipment, Procedures and Approvals
 (pursuant to the Petroleum and Natural Gas Act)
- Part II Occupational Health and Safety (pursuant to
 the Occupational Health and Safety Act)

These parts are administered by the Petroleum Directorate and Department of Labour and Manpower, respectively, although overall responsibility rests with the Petroleum Directorate.

Part I of the regulations prescribes several conditions and obligations for a drilling operations including:

- Procedures for approval of a drilling program and for the submission of a contingency plan
- Requirements for monitoring and inspection of drilling operations
- Conditions for the granting of authority to drill, test or terminate a well.

These are discussed more fully in Sections 2.3 and 2.4 below.

Part II of the Regulations deals directly with safety equipment and procedures. It includes requirements for lifesaving and firefighting equipment and for the treatment of hazardous materials. Standards are indicated for electrical installations, boilers, radioactive substances, elevating devices and explosives. General requirements are established for standby vessels, support vessels, medical facilities and diving operations.

The Offshore Installations (Design, Construction and Survey Regulations and Guidelines), 1982 regulations govern the certification of offshore installations, including offshore drilling units. They establish practices to be observed in the siting, alteration and equipping of offshore installations. Standards are prescribed for the appointment of Certifying Authorities; for conducting surveys; and for the issue of a Certificate of Fitness. These regulations are modelled after the UK regulations of the same name and have been modified to account for environmental conditions offshore Newfoundland and Labrador.

A specific Certificate of Fitness unique to Newfoundland and Labrador for the drilling unit is necessary before approval is given to drill a well. It is obtained by the owner of the drilling unit from the Certifying Authority. The Petroleum Directorate has authorized certain classification societies to act as Certifying authorities on its behalf. Four agencies have been granted the status of Certifying Authority:

- i) Lloyd's Register of Shipping (Lloyds)
- ii) American Bureau of Shipping (ABS)
- iii) Det Norske Veritas (DNV)
- iv) Bureau Veritas (BV)

2.1.4 International Agreements and Conventions

A number of international agreements and conventions, to which Canada is a signatory, cover marine aspects affecting the safety of ocean going vessels and drilling units. These are of significance here in that Canadian regulatory agencies require or, otherwise recognize these conventions. In addition federal government inspectors are empowered to examine for and certify certain of these items.

The International Convention on the Safety of Life At Sea (SOLAS) covers such areas as:

- requirements for valid certificates covering basic marine matters such as assignment of load line and inspections of hull and machinery;
- requirements for valid certificates covering the the quantity and functioning of basic life-saving equipment and appliances;

Requirements for radio personnel, qualification, procedures, and frequency allocations are prescribed by the International Telecommunications Union (ITU).

The International Maritime Organization (IMO) Code for Mobile Ocean Drilling Units specifies minimum requirements for the design, construction and outfitting of these units. Member states such as Canada generally give effect to the provisions of such Conventions by promulgating regulations but may specify more stringent and detailed requirements in addition to these. The MODU "standards" developed by CCG and COGLA used this code as a starting point, although these "standards" do not have the legal force of regulations.

2.2 DEVELOPMENT OF REGULATIONS

2.2.1 COGLA PROCEDURES

The need for regulations (or modification of existing regulations) may be determined in any number of ways: on the considered judgement of senior personnel responsible for the particular regulation area; on the basis of inspection reports or recommendations from inspectors; as a result of requests or recommendations from industry; by the example of other jurisdictions; etc.

There is no fixed approach followed in drafting or designing regulations. Usually, one staff person is given responsibility for preparing an initial draft in consultation with colleagues. Another approach which has been used is the formation of an adhoc committee to draft new regulations. The composition of such committees (i.e. whether entirely in-house or including representatives of other agencies (such as CCG, DND, etc.) is dictated by the subject matter. For example, the new MODU standards were developed as a team effort by a committee of COGLA and CCG personnel since "marine" regulations are considered primarily within the mandate of CCG. The committee studied and reviewed regulations in other jurisdictions and the existing IMO MODU code was used as a guide in formulating these new standards.

Drafts of new regulations are circulated to industry groups (CPA, IADC, CSA, etc.) and individual operators for comment. The stage at which industry representatives are involved in the development of new regulations appears to vary widely. In some cases industry was instrumental in providing their own internal standards and safety regulations as a starting point. Such was the case with the Drilling Regulations. In other cases industry comments were solicited only after a final draft was completed. No fixed policy on the timing or scope of industry involvement appears to exist.

Once a draft which is satisfactory to technical personnel is achieved, the process leading to promulgation is as follows:

- a) Review by Departmental lawyers
- b) Translation into French
- c) Review by Privy Council lawyers
- d) Enactment by Governor-General in Council

One principal purpose of the extensive legal review is to ensure that the new regulations do not infringe on other acts or regulations both within and outside the department in question and as well that the requirements set out do not go beyond the scope of enabling legislation.

In practice, it is necessary to provide more detail or more specific guidance than is given in general regulations. This is achieved through the preparation of "standards" or "guidelines" which are issued without formal promulgation as regulations. These regulations and standards are supplemented by "directives" which may be issued by the "Chief" under existing legislation. The scope of these directives is usually limited to a particular problem item and their application may be to one operation or the industry as a whole.

Most directives are in the form of a letter to an operator as the result of an inspection or of another operator's accident. The purpose is to bring the operator's attention to an apparent hazard, that may not be covered by a specific regulation or to notify him of accidents experienced by other operators conducting similar activities. The frequency of these directives varies but would average 2 - 3 per month. Industry-wide safety notices are less frequent, perhaps 4 per year.

Guidelines are usually developed from such directives and safety notices, in order to make important directives apply generally. Directives to individual operators are confidential in that they are government-operator correspondence meant to inform. Directives to industry as a whole as well as safety notices and guidelines are public documents. Collections of guidelines are organized into booklet form and published periodically. However, no fixed procedure or timing exists for this systemization process.

2.2.2 NLPD Procedures

The procedures followed in development of regulations is broadly the same as that followed at the federal level. For the three existing sets of regulations described in Section 2.1.2, the history and approach varied considerably.

In the case of the Petroleum Regulations, 1977, the legislation was drafted in-house. In the case of the Petroleum Drilling Regulations, 1982, the legislation was largely borrowed from the federal regulations of the same name after review by NLPD staff. Some modification was made to reflect increased requirements in the area of lifesaving equipment and specific environmental conditions offshore Newfoundland and Labrador.

The Offshore Installation Regulations, 1982, and an accompanying set of interpretive "guidelines" were based on legislation existing in the United Kingdom. The procedure followed here differed in that industry representatives were used directly in the drafting of the legislation. An international Advisory Committee, comprised of representatives of the following groups, assisted the Directorate in developing the regulations and guidelines:

- Mobil, Petro-Canada, Gulf, Chevron, British Petroleum
- The Canadian Petroleum Association
- The East Coast Petroleum Operators Association
- The International Association of Drilling Operators
- Sedco; Noble, Denton and Associates
- Det Norske Veritas, Lloyds Register of Shipping, American Bureau of Shipping, Bureau Veritas
- Memorial University of Newfoundland
- Newfoundland Department of Labour and Manpower.

The Newfoundland system also makes use of "directives" in the regulatory regime. A collection of such directives have been issued in the form of "Guidelines on Winter Drilling" as described in Section 2.7.2. As in the case of the federal regulatory system, initial directives are in the form of correspondence to individual operators. However, depending on the nature of the item covered, directives and guidelines may be issued publicly, with application to all operators or restricted to certain operators or operations, e.g. to particular types of drilling units or to a particular geographical area.

2.3 APPLICATIONS AND PERMITS

2.3.1 Approval of Drilling Programs (COGLA)

The process of approving the drilling of a well under the federal scheme involves two stages:

- A. the Drilling Program Approval and
- B. the Authority to Drill a Well.

A. DRILLING PROGRAM APPROVAL

This is an approval granted under the Canada Oil and Gas Drilling Regulations that permits an operator to drill in a particular geographical region for a specified period of time not exceeding three years using the drilling unit, associated support craft, techniques and contingency plans described in the operator's application and approved by the Chief Conservation Officer ("the Chief").

A prospective operator seeking a Drilling Program Approval is required to present a detailed application to COGLA, usually supported by an oral presentation after COGLA has completed preliminary review of the information submitted in support of the application. This information covers the following matters:

- geological and geophysical overview of the area,
- physical environment of the area,
- logistics of the drilling program,
- description of the drilling unit,
- drilling program and well design details, and
- oil spill response program.
- contingency plans in the event of emergencies

The review of an application for Drilling Program Approval is a multi-department effort with COGLA co-ordinating. The review of all aspects involving personell safety is carried out primarily by the Engineering

and Control Branch, with the Environmental Protection Branch responsible for evaluation of emergency/contingency plans.

During the period in which the drilling program is under review, the prospective operator may be called upon to provide additional information or to clarify points in the application. Also, it is normal for COGLA engineers to inspect the proposed drilling unit before the drilling program is approved; the prospective operator is expected to make the necessary arrangements for the inspection with the owner or operator of the unit.

B. AUTHORITY TO DRILL A WELL

This approval, granted under the Canada Oil and Gas Drilling Regulations, is a licence to drill a particular well within an approved drilling program using the drilling procedures, blowout preventers and the casing and evaluation programs described in the operator's application and approved by the Chief or by the relevant COGLA Regional Manager. An application for Authority to Drill a Well must include all the technical information required by the Drilling Regulations plus such other information as the Chief may require.

Even after approval is given, the Chief may withdraw the Authority to Drill a Well where the safety of operations becomes uncertain owing to either the level of performance of the drilling rig, drilling unit or any support craft being demonstrably less than the level of performance indicated in the application for the Drilling Program Approval submitted by the operator, or the environmental conditions encountered in the area of the drilling program

being more severe than those predicted by the operator when the Drilling Program was granted. Furthermore, special permission is required before drill stem testing of a well is undertaken, and approval must also be granted for termination of a well.

2.3.2 Approval of Drilling Programs (NLPD)

The Provincial process of approving the drilling of a well is analagous to the Federal scheme described above. It involves the following components:

A. DRILLING PROGRAM APPROVAL

This is the general approval required under the Newfoundland Petroleum Drilling Regulations to ensure that the methods, procedures, logistics and equipment to be used in a drilling program are acceptable. The drilling unit and associated support craft must be described and the drilling unit must have a valid "Certificate of Fitness" (see Section 2.1.3). Approval is granted to drill in a particular geographical region for a specified period of time (not exceeding 3 years). The review of an application for drilling program approval is co-ordinated by the "Operations Control" group of the Petroleum Directorate but involves other personnel in the Petroleum Directorate such as geologists, ocean engineers and environmentalists; relevant government departments such as Department of Labour and Manpower; and, outside consultants as required.

As part of the application for Drilling Program Approval a Contingency plan must be submitted. This plan sets out procedures to be followed in the event of all foreseeable accidents such as oil spills, injuries, vessel damage, etc. Review of the contingency plan is co-ordinated by the Environmental Assessment Engineer and involves the Provincial Departments of Environment and Labour and Manpower and the Emergency Measures Organization.

B. AUTHORITY TO DRILL A WELL

This authority is granted within an approved drilling program and governs a particular well proposal. The purpose is to ensure the well is designed in accordance with sound drilling and engineering principles and accepted oilfield practice. Information required is necessarily more specific than for a drilling program: drilling procedures, casing and evaluation programs and the nature and intended use of blowout preventers. Again, this review is co-ordinated by the Operations Control group of the Petroleum Directorate but involves other personnel within the Petroleum Directorate, relevant government departments and outside consultants.

Special permission must be granted to test wells. Information on the test program is submitted to the Operations Control group to ensure the operation is in accordance with the Regulations. Approval must also be granted before a well is abandoned or suspended. A member of the Operations Control group is on 24 hour call because unanticipated conditions may cause deviations from an approved termination program.

2.4 INSPECTION, MONITORING AND ENFORCEMENT ACTIVITIES

2.4.1 Inspection and Monitoring Activities (Federal)

In addition to conducting an inspection of the proposed drilling unit before the drilling program is approved, COGLA also conducts regular on-site drilling and safety inspections. These inspections are generally carried out by engineers and technologists from the regional COGLA office. The frequency of inspections varies from every two to four weeks (Nova Scotia office) to approximately monthly (Newfoundland office). In general, inspections would be more frequent in the case of rigs which are new to the

region. The emphasis of these inspections is on drilling procedures and well control and in general on items covered in the "Drilling Regulations" described above. Additional inspections take place during special operations such as formation testing or the setting of crucial casing strings.

COGLA relies on other agencies, such as the Coast Guard, to conduct certain inspections. These inspections are done on an "as needed" basis when requested by COGLA and apply to marine items and lifesaving equipment. Such inspections appear to be infrequent, perhaps once or twice a year, or whenever a new rig is brought into an area. CCG also conducts yearly inspections of Canadian flag support vessels and foreign flag vessels operating out of Canadian ports. With the implementation of the new mobile offshore drilling units (MODU) standards CCG will also be responsible for inspection and certification of all new Canadian flag MODU's to these standards, and of all foreign flag MODU's on COGLA's behalf.

Written reports on all inspections are prepared and circulated in the regional office and to the Engineering Branch Ottawa. A copy is also provided to the operator. Contingency plans are tested periodically to ensure a high level of preparedness.

An operator is also required to send COGLA a daily report, by telex or by an equivalent means, of drilling data from the time the drilling unit first arrives on location until it leaves the location. Technologists at the regional office chart the progress of each well on the basis of these reports and compare actual progress with that proposed in

the drilling application. Any significant deviation or unusual conditions encountered are immediately referred to the regional engineer for appropriate action. On a three hourly basis (hourly if helicopter traffic is planned), the operator is required to report weather, ice and sea state information to the Atmospheric Environment Service. Monthly and daily logs of all the physical environmental factors are sent to the appropriate federal government agencies for quality control and archiving. COGLA monitors these activities and ensures compliance. Biological monitoring is also carried out as specified by COGLA.

Furthermore, an operator is required, during a drilling program, to prepare and submit to the Chief a weekly summary of all significant events that occurred at the drill site during the preceeding week; a report describing the lithology of any formation drilled, significant hydrocarbon shows encountered and the nature of any deviation and directional surveys that were taken during the preceeding week; and, finally, a report on any accident that involved a personal injury or death. In the latter case, COGLA requires that it be informed forthwith.

Deficiencies or problems encountered as a result of this inspection and monitoring activity are brought to the attention of the operator as soon as possible. A formal statement of requirements is often issued in the form of a "directive". The frequency and scope of such directives and related guidelines was discussed in some detail in Section 2.2 above. Smaller items or items which are deemed urgent are dealt with immediately at the inspector's request. Larger items would be made the subject of meetings with the operator to decide a course of action. In all cases a continuing dialogue with the operator is attempted to discuss progress on a problem item.

2.4.2 Inspection and Monitoring Activities (Newfoundland)

Ongoing monitoring and inspection activities by provincial authorities involve a number of components. Drilling reports, geological reports, weather forecasts, ice conditions and other operational aspects are received at the Petroleum Directorate and monitored on a daily basis, to ensure that operations comply with the Regulations and the approved drilling program. Monitoring daily operations allows the Petroleum Directorate to intervene and/or prescribe measures if it feels adverse weather or operating conditions threaten the safety of personnel or the environment. Many groups of the Petroleum Directorate are involved in the monitoring of operations as illustrated Figure 2.1.

This is the responsibility of the Operations Control group of the Petroleum Directorate. Five inspectors are employed in this group to inspect drilling equipment and procedures and to identify potential hazards. As well, two inspectors from the Department of Labour and Manpower inspect the rig and its operations to identify occupational health and safety hazards. Three types of inspections are conducted:

Pre-operations Inspections are conducted by the Petroleum Directorate and the Department of Labour and Manpower prior to the issue of a drilling program approval to ensure the drilling unit meets the requirements of the drilling regulations.

Routine Operations Inspections are conducted once every three weeks by the Petroleum Directorate and the Department of Labour and Manpower to ensure operations are in accordance with the Regulations and to identify any hazards. They may also be conducted to witness critical

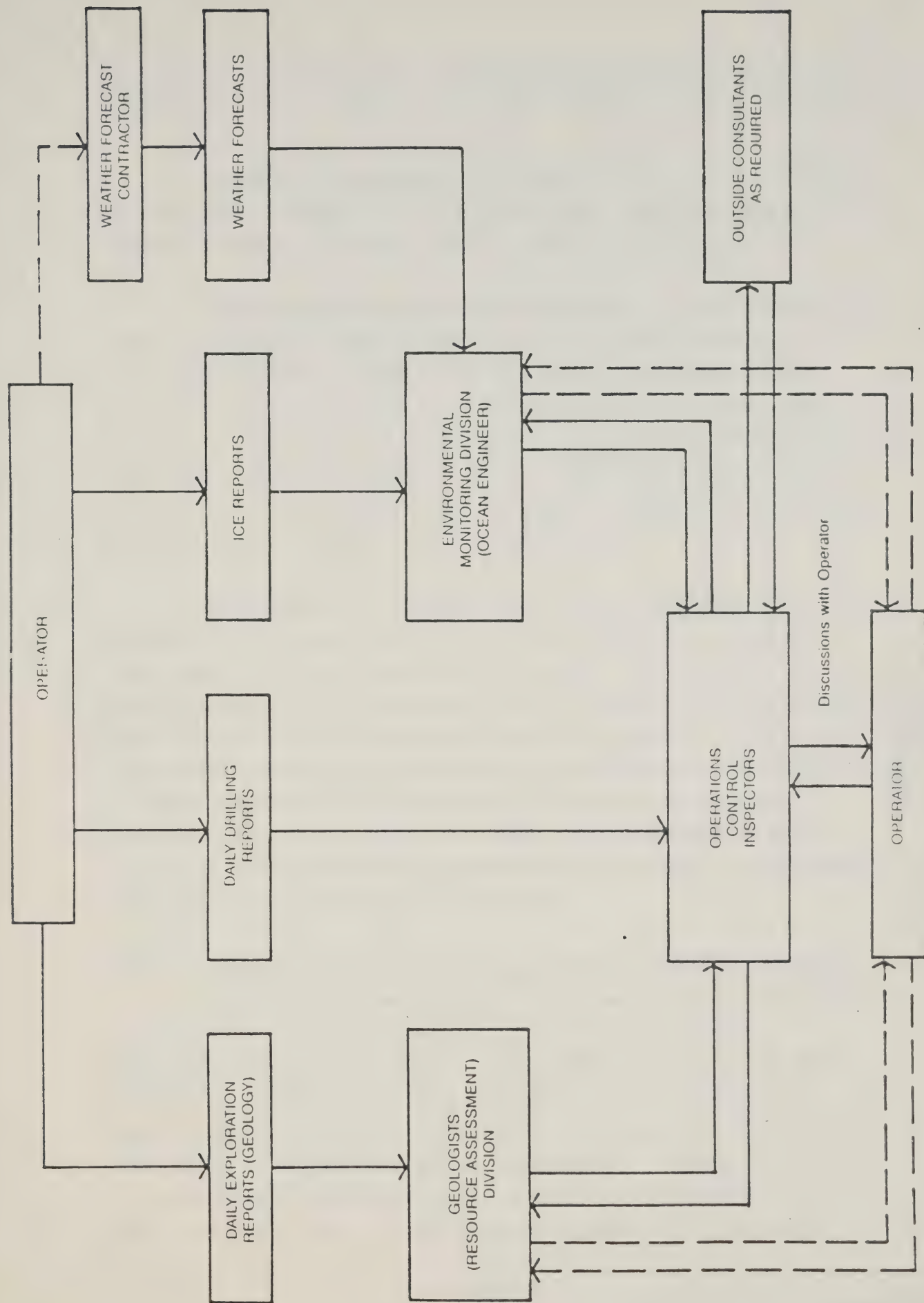


FIGURE 2.1

operations such as running and testing BOP's, setting and cementing crucial casing strings, or testing of formations.

Special Inspections are conducted for a specific purpose, for example, diving consultants may be engaged to inspect diving equipment used on the drilling unit.

The Engineering Systems division is responsible for administration of the Offshore Installations (Design, Construction, and Survey) Regulations. The Engineering Systems division monitors the certification process and in instances where the interpretation of specific conditions is required, provides guidance to the Certifying Authority. This division can direct the Certifying Authority to assess any accidental damage to a drilling unit.

More specific to Part II of the Petroleum Drilling Regulations (Occupational Health and Safety), workplace committees have been established on all drilling units. Their purpose is to allow workers to identify safety hazards and to ensure that corrective action is taken. Minutes of the committee meetings, attended by management and workers, are monitored by the Department of Labour and accidents involving injury or death are also investigated by the Petroleum Directorate and Department of Labour and Manpower, using outside expertise if required.

2.4.3 Inspection and Monitoring Activities (Nova Scotia)

Since all responsibility for management, including monitoring and inspection activity, of the offshore petroleum resource is vested with COGLA, the role of Nova Scotia Provincial officials (principally the Petroleum Resource Section of the Department of Mines and Energy) is limited to that of "Agressive Observers". Thus, in a sense, the provincial representatives serve more a watchdog of COGLA activity than of the offshore operators themselves.

Nevertheless, the inspection and monitoring activities of Nova Scotia officials include the following:

- They are involved in an advisory capacity in the assessment of applications for Drilling Program Approval and for authority to Drill a Well.
- They sometimes accompany COGLA, CCG and classification society personnel on periodic inspections.
- They conduct pre-sailing and post-sailing inspections of drilling rigs.
- Any significant findings or discrepancies discovered as a result of these inspections are conveyed directly to the COGLA Nova Scotia office for follow-up/enforcement action.

The purpose of these provincial monitoring activities is three-fold:

- to provide direct, first-hand information to the provincial minister/cabinet;
- to allow Nova Scotia to contribute to any discussions of offshore activity;
- to save time in the case independent provincial inspections might be required;

The province has never involved itself in inspections of support vessels or the like.

The province is routinely informed of any exceptional occurrences (e.g. rig collisions) by COGLA and copies of reports of such incidents can be obtained on request.

2.4.4 Enforcement

The steps followed in the enforcement process

followed by both COGLA and NLPD involves the following steps:

- Notice is first given by the inspector on the unit involved, as to deficiencies noted and corrective action recommended. It should be noted that all the agencies involved report that operators have generally been prompt to respond to all notifications of deficiencies. Confrontation is rare.
- Notice is telexed to operator management.
- It is traditional in the industry that a warning letter setting a deadline for compliance and action is only taken when it becomes obvious that the requirement will not be acted on.

Although monetary penalties are generally provided for in the legislation, the usual enforcement mechanism is the authority to withdraw drilling permits and to shut down a drilling unit.

At least informally, the authority to issue an order shutting down a drilling unit or a particular operation such as a drill stem test appears to have been sub-delegated, in both the provincial and federal systems, down to the inspector level. However, both agencies stressed that such action would be taken only in the most rare instances when a clear and immediate danger was judged present. Even then, every effort would be made by the inspector to notify his superiors of his action and have him verify/reinforce his decision. Within COGLA, the Chief Conservation Officer or his designate and within NLPD, the Assistant Deputy Minister Resource Management or his designate would normally be asked to confirm such an order.

Although these "de facto" arrangements are in place,

the legal status of such sub-delegation of authority under both the federal and provincial is not so clear. Under the Canada Oil and Gas Production and Conservation Act, a "Conservation Engineer" has such authority, but it is not clear that all COGLA inspectors are "Conservation Engineers". There appears to be no formal delegation of this authority to inspectors. Thus any decision on immediate action of this sort would appear, legally, to need the approval of a "Conservation Engineer". Further examination of this problem was deemed outside the scope of this study.

2.5 SAFETY AREAS HAVING SPECIAL REGULATORY REQUIREMENTS

2.5.1 Diving Operations

COGLA has issued a set of guidelines covering diving operations although these are still, officially, in draft form. These regulations have been in development since 1975, and in fact all operators have been required to comply with these regulations since that time. Certain aspects of diving operations are also included in the Drilling Regulations.

Initial inspections of diving operations are conducted by the Chief Diving Inspector based in Ottawa. Inspections cover equipment, procedures and certification of divers. The Chief Inspector is empowered to grant exemptions at this time. In addition Regional COGLA inspectors cover diving equipment as part of their periodic inspections.

NLPD has not issued a specific set of diving regulations. They do not have in-house diving inspectors, but have used and continue to use diving consultants to conduct initial inspections of all diving operations. NLPD

inspectors also carry out inspections of diving equipment as part of their regular inspections.

2.5.2 Contingency Plans

A. COGLA REQUIREMENTS

The Canada Oil and Gas Drilling Regulations requires operators to submit contingency plans for a number of emergency conditions in support of their application for a Drilling Program Approval. The purpose for these contingency plans is two fold:

- i) To serve as an action plan for the integration of the operational components of a drilling program - providing references for more detailed procedural manuals where appropriate.
- ii) To provide a one-volume overview from which COGLA can assess the operational integrity of a proponent's program.

Guidelines for the preparation of contingency plans have been issued by COGLA. These guidelines, provide a check list of factors that operators should consider in the preparation of contingency plans, whether drilling from platforms, vessels, or other offshore structures. The issues related to personnel safety which are required to be addressed by the plan are the following:

- Serious Injury or Death
- Major Fire
- Loss or Damage to Support Craft
- Loss or Disablement of a Drilling Unit
- Loss of Well Control
- Arrangements to Relief Well Drilling
- Hazards Unique to the Site
- Safety Procedures and Training

It is recognized that operators and drilling contractors have their own operating and safety procedures.

Contingency plans, therefore, are to reflect an integration of operator, contractor, and subcontractor procedures, where appropriate, and provide plans for those grey areas not specifically addressed in any one of these operations manuals.

Copies of relevant sections of the submitted contingency plans are circulated to other government departments (including provincial government agencies) which are affected by those sections of the plan. Other Federal agencies involved are the Canadian Coast Guard, Department of National Defence (SAR), Environment Canada, Department of Fisheries and Oceans and Department of Indian Affairs and Northern Development. These other departments principally evaluate environmental aspects of these plans.

Responsibility for co-ordination and assessment of the plan within COGLA lies with the Environmental Protection Branch - specifically the Chief, Emergency Response.

B. NLPD REQUIREMENTS

The Newfoundland and Labrador Drilling Regulations also require the submission of a contingency plan in support of the Application for Drilling Plan Approval. In most cases the submissions to both governments would be identical.

A review process similar to COGLA's is conducted with assessments being conducted by relevant government departments under the co-ordination of the Ocean Engineer (Environmental Assessment Group), NLPD, who has responsibility for assessment of the plan as a whole.

2.5.3 Helicopter Operations

The regulation of helicopter operators is divided

between two federal departments - Transport Canada and COGLA. Regulations covering helicopter landing facilities on drilling units were also issued by NLPD.

Primary regulation of helicopter equipment and flight personnel falls quite clearly to Transport Canada. This appears to be well-established and well-handled, with operators being familiar and comfortable with this arrangement. The advent of new COGLA requirements affecting these operations and the offshore workers being transported has caused some concern to the helicopter industry. One example of COGLA regulations which affect in flight safety is the requirement for survival or exposure suits.

In the area of communications, there appears to be potential for mismatch and gaps between the two separate regulatory requirements for communications equipment on helicopters (which are set by Transport Canada), and corresponding equipment on drilling units (which are set by CCG and COGLA and inspected by DOC).

The third area subject to regulation is the specification of requirements for helicopter landing facilities. Federally, responsibility for such regulations lies with COGLA. COGLA's initial requirements were formulated by modifying Transport Canada's requirements for land based facilities. Because of the limited space involved these requirements could not be matched exactly. Subsequently a large number of exemptions were required to accommodate the wide variation in the design of those facilities.

2.5.4 Northern Sector

The East Coast Offshore Area north of 60° north latitude may be divided into two sub-areas: (1) Davis Strait

- South Baffin Island and (2) Lancaster Sound - North Baffin Island.

1. Davis Strait - South Baffin

Although seismic exploration in this area commenced in the late 1960's, only two wells have been completed to date, with one other commenced in 1982. Future activity in this area is uncertain due to costs, high risks and results to date. It is expected several wells will be drilled in the next decade; however, no definite plans have been announced.

2. Lancaster Sound - North Baffin

Despite the fact that a well has yet to be drilled, this area is considered to have good to excellent hydro-carbon potential. The environmental sensitivity of the Lancaster Sound Area will require careful consideration of the potential effects of drilling.

This Northern Sector presents some unique problems in regulation and regulatory responsibility. Among these are the following:

- Environmental Hazards

The presence of severe ice and iceberg conditions for most if not all of the year will require extensive revision of standards for design, construction and operations of drilling units.

- Search and Rescue

The vast distances, the severe environment in the area and the remoteness of the nearest Rescue Co-ordination Centres (Halifax and Edmonton) present special problems for contingency planning and search and rescue efforts.

2.6 LIAISON OF PRIMARY AGENCIES WITH OTHER GROUPS

2.6.1 COGLA Liaison with Outside Groups

COGLA interacts with a large number of groups both inside and outside government on offshore safety issues. Many of these have been discussed previously in the context of the particular group or of the particular COGLA activity involved. This section will briefly summarize these in the following categories:

A. FEDERAL GOVERNMENT AGENCIES

Although COGLA is the primary federal agency responsible for implementing federal policy on offshore oil and gas activity, a large number of other federal government agencies are involved directly or indirectly in issues affecting the safety of offshore exploration operations. The responsibilities of these agencies are described in some detail in Section 1.2 above. Communication between the majority of these agencies and COGLA is maintained in all cases on an informal basis through personal contacts in all cases; however, in some cases a definite liaison mechanism has been established. Examples of these cited by COGLA are as follows:

1. Canadian Coast Guard

There exist two formal committees - one technical and one managerial - which are mandated with responsibility for overseeing implementation of the COGLA - CCG Memorandum of Agreement. The technical committee consists of 2 or 3 members from each of COGLA and CCG and is chaired by the Director of Structures of COGLA. Most issues are resolved by the technical committee which meets on a regular basis. Unresolved and policy issues are referred to the management committee which also serves as an appeal body and consists of the Administrator and the Director General - Engineering

for COGLA and the Commissioner and Deputy Commissioner of CCG. On a regional basis no such formal liaison is maintained.

2. National Search and Rescue Program

At the policy making level, COGLA is represented on the Interdepartmental Committee on Search and Rescue (ICSAR) at the Ottawa level. On the administrative level, a representative of COGLA (the Chief, Emergency Response) liaises on an on-going basis directly with DND and CCG officials responsible for air and sea aspects of SAR with respect to the approval of contingency plans. On the regional level, representatives of COGLA liaise directly with regional SAR staff on an "as-needed" basis.

3. Labour Canada

A joint committee between COGLA and Labour Canada was created to review potential conflicts between COGLA Drilling Regulations and the Canada Labour Code. The committee was disbanded upon completion of its work. No official liaison now appears to exist.

4. Health and Welfare Canada

The Advisory Committee to COGLA with representatives from Health and Welfare was described in Section 1.2 above. This appears to be the only official liaison between the two agencies. Health and Welfare also liaises from time to time with CCG on medical aspects of the CSA.

5. Environment Canada, Department of Fisheries and Oceans

As pointed out above, an official Agreement exists between COGLA and Environment Canada for the provision of AES data products to COGLA. Similar arrangements exist with DFO for the provision of MEDS Services. In general these departments are regarded as "resource agencies" by COGLA and

are called on through direct contact of officials responsible for a particular area. No official liaison committee exists for overall co-ordination of liaison, but ad hoc committees are formed to deal with specific issues.

6. Canada Employment and Immigration Commission

CEIC is the main department involved with COGLA on issues of employment and training. An ad hoc committee dealing with training is established between CEIC and COGLA and there is direct liaison on the regional level between COGLA and CEIC on these matters; CCG is also involved where marine training is involved.

B. OTHER GOVERNMENT AGENCIES

1. International Government Organizations

COGLA maintains semi-formal ties with such international groups as the International Maritime Organization (through CCG which is the official Canadian representative) and the Northwest European Offshore Safety Committee (on which COGLA is the official Canadian representative). COGLA also maintains direct informal contacts with the Norwegian Petroleum Directorate, the United Kingdom Department of Energy and the United States Geological Survey.

2. Newfoundland and Labrador Government

COGLA does not maintain any formal contacts with NLPD. However, NLPD is contacted on an informal basis on issues of mutual concern when they arise. The COGLA Newfoundland office has followed a policy of inviting NLPD representatives to attend formal meetings with operators and contractors as an "observer" on subjects such as plans for winter drilling operations.

3. Nova Scotia Government

The Canada-Nova Scotia Offshore Oil and Gas Board consists of five members - three from COGLA and two from Nova Scotia (representing the Nova Scotia Departments of Finance and Mines and Energy) and is responsible for the administration of the Canada-Nova Scotia Offshore Agreement. The COGLA-Nova Scotia regional office reports to both this board and to COGLA-Ottawa. The relationship between the Nova Scotia Department of Mines and Energy and COGLA is described in Section 2.4.3 above. Conflicts are resolved by reference to the Board.

4. Provincial Labour and Manpower Departments

There is precedent for Labour Canada to appoint provincial Labour and Manpower inspectors for certification of elevators and pressure vessels on behalf of responsible federal officials in the case of land based sites. Whether this procedure will be followed in the case of offshore work sites such as drilling units is a source of confusion to officials interviewed. Similar remarks might be made with respect to certification of welders and cranes. The issue is further complicated by the fact that such certifications are often performed by classification society representatives and CCG inspectors in the case of Canadian Flag vessels.

C. INDUSTRY GROUPS

1. Classification Societies

COGLA does not make direct use of classification societies as does NLPD; however, these societies have been and are retained as consultants as needed. CCG will require normal class certification of drilling units under the proposed new MODU standards, as it does now for certification of Canadian flag support vessels. It does not appear that CCG will accept classification society surveys

of drilling units for compliance with the new MODU standards as sufficient for certification. Also, at present there appears to be some difference in the list of officially recognized class societies between COGLA and CCG.

2. Petroleum Industry

Although there appears to exist no single formal consultative mechanism for liaison with the petroleum industry, COGLA maintains contact with the industry through a number of informal and semi-formal means. These include:

- direct contact with individual operators involved offshore Eastern Canada on a daily basis by COGLA officials in the course of performing their regulatory duties;
- informal contact with industry groups such as the Canadian Petroleum Association and the International Association of Drilling Contractors for advice on general issues as they arise;
- circulation of draft regulations to industry for comment before final issuance;
- direct participation in government and industry committees formed to address specific items. This is often accomplished through industry groups such as the Petroleum Industry Training Service (PITS) in the case of training.

D. SPECIAL INTEREST GROUPS

1. Ocean Ranger Families Foundation

COGLA formally recognizes this group as representing families of victims of the Ocean Ranger Disaster and has financially assisted it. The group was consulted in the raising of the Ocean Ranger wreck.

2.6.2 NLPD Liaison with Outside Groups

The Petroleum Directorate interacts with several other government departments, advisory agencies, public concern groups, and oil companies on issues related to the safety of offshore operations. (Figure 2.2). Many of these have been mentioned in the previous Section 2.1 concerned with regulations. This section will briefly describe each group and explain the nature of their relationship with the Petroleum Directorate.

A. PROVINCIAL GOVERNMENT AGENCIES

As described in Section 1.3.1 above, the Newfoundland departments of Labour and Manpower and Justice are the provincial departments most directly concerned with safety aspects of offshore operations. In addition, the provincial Department of Environment is responsible for integration of offshore occurrences and contingencies into the overall provincial plans for environmental protection. The provincial Department of Development is involved in the planning and implementation of provincial requirements for use of local goods and services as they apply to offshore exploration activity. The role of other provincial government agencies such as Worker's Compensation Board and Emergency Measures Organization is set out in Section 1.3. NLPD liaises with these organizations on an on-going or as needed basis, but no formal liaison mechanism exists..

B. FEDERAL GOVERNMENT AGENCIES

1. Canadian Oil and Gas Lands Administration

COGLA is recognized as the federal government agency responsible for implementing federal policy and regulations governing offshore oil and gas exploration and development. As the federal counterpart to the Petroleum Directorate, there has been considerable contact between all divisions of both agencies. The operations control group for the

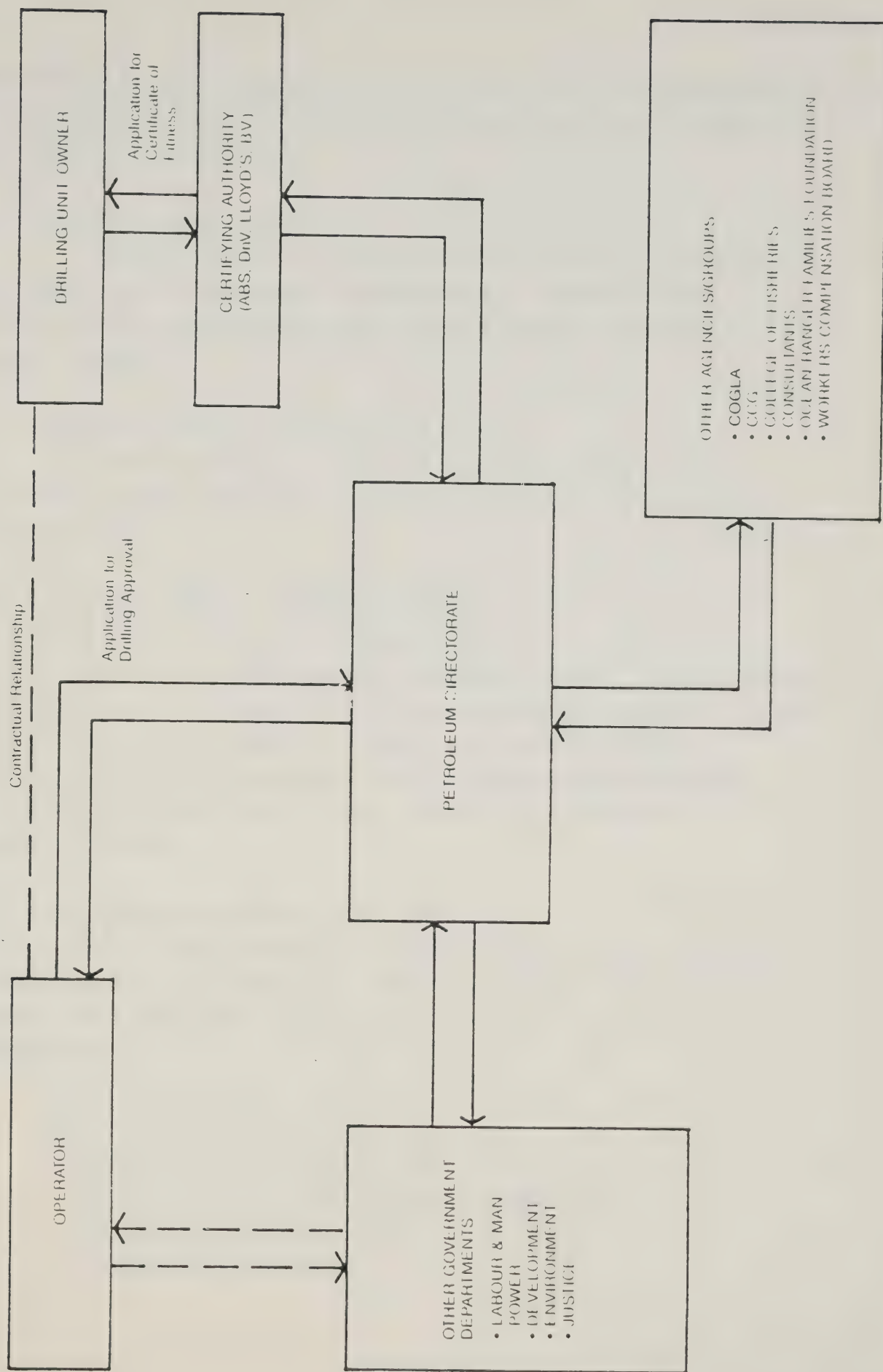


FIGURE 2.2

Petroleum Directorate maintains contact with the inspectors at COGLA to discuss recommendations and exchange information on offshore operations.

2. Canadian Coast Guard

The CCG is one of the emergency response agencies enlisted by the Petroleum Directorate. The Petroleum Directorate also consults with CCG on general matters of marine safety.

3. National Search and Rescue Program

The facilities of the National SAR Program are included as part of the Petroleum Directorate's emergency response plan.

C. ADVISORY/SPECIAL INTEREST GROUPS

1. Ocean Ranger Families Foundation.

This is an officially recognized agency representing the families of victims of the Ocean Ranger disaster. It is authorized by its members to deal with industry and government. The Foundation has had considerable contact with the Petroleum Directorate through the Community Relations group.

2. Newfoundland Federation of Labour.

This group represents trade unions in the Province. Periodically, the Federation makes submissions to the Petroleum Directorate on aspects of safety in offshore operations.

3. Classification Societies

American Bureau of Shipping (ABS)

Lloyd's Register of Shipping (Lloyd's)

Det Norske Veritas (DNV)

Bureau Veritas (BV)

These four agencies have been appointed as Certifying Authorities by the Petroleum Directorate. They act on behalf of the Petroleum Directorate in certifying the drilling units (Certificate of Fitness), necessary before approval can be granted for a drilling program (see Sections 2.1 and 2.2).

4. International Advisory Committee

This group has assisted the Petroleum Directorate in the formulation of some of its regulations and guidelines. Members of the Committee are listed in Section 1.3.

D. PETROLEUM INDUSTRY

The Offshore Operators Division, Canadian Petroleum Association (formerly Eastcoast Petroleum Operators' Association - EPOA) represents all companies operating offshore. It provides information about offshore activities and acts as a liaison between industry and the general public, government departments and other agencies. NLPD has informal contacts with this group, but it is considered neither the single nor the primary contact point with the industry.

The Petroleum Directorate has direct daily contact with individual operators active offshore and with oil companies not currently active, but seeking exploration rights offshore. Another industry group of concern are the drilling contractors. Although the Petroleum Directorate does not liaise directly with these companies, but through the relevant operator, individual contractor representatives as well as contractor groups such as IADC and CAODC participate in meetings and committees formed to address particular safety items. Similarly, industry groups such as PITS have participated in committees formed to address training for safety offshore.

E. PROVINCIAL ACADEMIC INSTITUTIONS

The College of Fisheries, Navigation, Marine Engineering and Electronics (St. John's, Newfoundland) is involved in all facets of marine training, including safety and survival at sea. They offer a course in Marine Emergency Duties (M.E.D.) which has been a prerequisite according to Newfoundland Regulations, for working in any position offshore. A new course more applicable to drilling operations, Basic Offshore Survival Training (BOST), has recently been developed by the College in collaboration with the Petroleum Directorate, the Education and Training subcommittee of the Province's Offshore Petroleum Impact Committee (OPIC) and the occupational safety branch of the Department of Labour and Manpower and through discussions with the Petroleum Industry. This course will replace the M.E.D. course for personnel involved in offshore drilling. The Petroleum Directorate, through its Marine Safety Consultant, works closely with the College in training matters.

The Centre for Offshore and Remote Medicine (MEDICOR) (Faculty of Medicine, Memorial University of Newfoundland) has developed a team of medical people to handle emergency medical response, as part of the Accidental Occurrences Contingency Plan developed by the Petroleum Directorate. This group also makes recommendations to the Petroleum Directorate on occupational health and safety in offshore operations.

2.7 RECENT AND PROPOSED CHANGES IN MANAGEMENT STRUCTURES

2.7.1 Federal Regulatory Agencies

1) PROPOSED CHANGES TO THE CANADA SHIPPING ACT

Proposals to amend the Canada Shipping Act dated September 19, 1983 would have an effect on the following aspects of government regulation of safety offshore:

- Canada would become party to the 1978 Convention on Standards of Training, Certification and Watchkeeping for Seafarers but with a reservation with respect to the compulsory knowledge of English in conformity with the spirit of the Official Languages Act.

- The Amended Act would clearly permit the Board of Steamship Inspection to prescribe equivalent standards or exemptions from compliance with regulations where such exemptions are necessary or desirable.

- The Amended Act would allow steamship inspectors to issue safety certificates to Canadian ships on the strength of inspection reports prepared by classification societies regardless of where the inspection was conducted. At present, inspections may be delegated to classification societies only when the inspection is to be conducted outside Canada.

- The Amended Act would allow implementation of the International Code for Mobile Offshore Drilling Units (MODU's).

2. PUBLICATION OF STANDARDS FOR MOBILE OFFSHORE DRILLING UNITS

COGLA and CCG have jointly drafted and CCG has published a set of standards for MODU. The standards are a modification of the international code drafted under the auspices of the International Maritime Organization. They constitute a uniform safety and construction standard for new MODU's and will facilitate international movement and operation of these units. When in effect (proposed January 1, 1984) CCG will take direct responsibility for inspection to these standards of Canadian flag MODU's and inspection under COGLA's authority of foreign flag MODU's. A similar code for jack-up rigs is currently being prepared.

3. ESTABLISHMENT OF CENTRAL DIVING INSPECTION FACILITY

It is proposed to establish, in Halifax, under the COGLA-Nova Scotia office, a central diving inspection facility including headquarters for COGLA's Chief Diving Inspector for all of Canada.

4. FEDERAL GUIDELINES FOR WINTER DRILLING

On December 8, 1983, COGLA issued reviewed guidelines governing drilling activity in the East Coast offshore during 1984.

The guidelines contained the following new measures:

- Operators have developed cooperative Regional Alert Plans, and have coordinated their individual emergency plans. These initiatives will ensure the quickest and fullest response to any given emergency, because they allow for the use of the resources of all operators. These Regional Alert Plans and contingency plans detail command structures, communications and flight monitoring systems, equipment available, and procedures for dealing with such situations as severe storms, ice conditions and accidents.
- The Alert Plans will be closely coordinated with the Search and Rescue (SAR) plans of the Department of National Defence (DND).
- Operators on the Grand Banks have agreed to provide a full-time, dedicated, search and rescue helicopter, with a crew trained in its use. DND will assess the SAR programs of the operators on a continuing basis and will provide SAR training for industry personnel.
- The industry has introduced cooperative arrangements with respect to ice surveys and

control, emergency responses, and alternate landing sites. This will be facilitated by having all rigs on the Grand Banks operating within close proximity of each other.

- Operators on the Scotian Shelf will establish an emergency base on Sable Island. This will facilitate the transfer of personnel from offshore drilling rigs should an emergency arise.

2.7.2 Newfoundland and Labrador Regulatory Agencies

1. PROVINCIAL WINTER DRILLING GUIDELINES

On November 5, 1982 the Newfoundland Minister responsible for NLPD issued a statement of terms and conditions under which the government would permit drilling offshore during winter months. In addition to a re-iteration of certain provisions in the existing provincial regulations, further requirements were set down as follows:

- Equipment Requirements

The Winter Drilling Guidelines require that all drilling units operating during winter months carry dual radar with a complete backup system to improve iceberg management. The Guidelines also require improvement of rescue equipment on support vessels including: installation of high speed rescue boats; a suitable launch-recovery system; a crane with a heave-compensated winch; a personnel pick-up basket; a line-throwing appliance; extra search lights; and protective work suits for the rescue crew. All lifeboats must be equipped with permanent marine radios, head bolt heaters, and radar reflectors.

- Operating Procedures

The Winter Drilling Guidelines address several areas of operating procedures. First, the command structure on drilling units is subject to approval by the Petroleum

Directorate. This would require designation of a person in charge and a chain of command during emergency situations. Second, the Guidelines require that evacuation of the rig be carried out subject to flying conditions when winds are forecast to be in excess of 80 percent of the wind design criteria for the rig or 80 knots, whichever is the lesser. Third, the Guidelines outline operating procedures for stand-by vessels under normal and adverse conditions. Finally, the Guidelines state that communication with drilling units is to be improved with the status of rigs experiencing storm conditions to be reported to the operators' shore base at least every two hours. Also a recording device is to be installed in the radio room at the shore base to record communications with the rigs and store it for a period of 24 hours.

- Training of Personnel

In addition to the marine emergency duty certificate required under the Newfoundland Drilling Regulations, the Winter Drilling Guidelines require additional training for both rig personnel and rescue crews. Standby vessel rescue crews must now receive special training and operators are also required to conduct a training programme for drilling personnel on ballast control of drilling units.

CHAPTER 3

CRITICAL ASSESSMENT OF SAFETY MANAGEMENT

3.1 SCOPE AND LIMITATIONS

A thorough evaluation of the management of the regulatory process involved in offshore oil exploration would include all of the parameters of any program evaluation assessment - identification of the goals and objectives of the program or process, extensive data gathering on the actual operating procedures, and an analysis of the extent to which those procedures meet the stated goals and objectives. Recommendations resulting from this analysis would be directly linked to the evidence presented and would therefore be both credible and valid.

Unfortunately this type of systematic evaluation, while it may prove very valuable at some point in the future, could not be attempted under the present contingencies of time constraint and resource allocation. We have therefore limited the scope of the study to an analysis of that data which was readily accessible (organizational structures, etc.) and that which, though not systematically collected, appeared in the eyes of the study group to accurately reflect general areas of concern.

A further point of clarification on the scope of the report concerns the subject matter. Attention is focused on the mechanisms for developing and enforcing regulations governing offshore drilling; the adequacy or appropriateness of the regulations themselves are considered outside the mandate of the present study.

3.1.1 Methodology

To arrive at an assessment of the effectiveness of regulatory management, comment and opinions were solicited from the agencies themselves and from representatives of the industry regulated. The objectives of this information gathering exercise were two-fold:

1. To obtain perspectives on the safety management structures, their organization and their functioning;
2. To obtain information on the performance of each organizational unit relative to its area of responsibility. This information would include industry's opinions on the performance of the regulatory agencies as well as the agencies' own perceptions of their internal strengths and weaknesses.

Each of the primary regulatory agencies described above was approached to provide detailed information on its internal organization and administration and on its relationship to and liaison with any secondary organizations involved in the regulatory scheme. The texts of these letters of inquiry are reproduced in Appendix C1. The principal items required were as follows:

1. A description of the management structure and current (effective) organization charts of the primary organization.
2. A listing of all other organizations related to or appointed by the Government with responsibility for any aspect of offshore exploration safety with a description of their relation to the primary organization's mandate.

3. A description of the responsibilities and make-up of any advisory committees, boards, liaison groups or other structures employed to assist or facilitate the primary organization's regulation of offshore exploration safety.

4. A description of the administrative arrangements currently in place to assign responsibilities and coordinate activities of the primary organization. Special emphasis should be placed upon the arrangements in place to:

- develop/modify regulations
- inspect equipment
- monitor ongoing operations
- enforce regulations
- provide liaison with industry
- resolve interagency conflicts
- approve submissions such as contingency plans, drilling applications, etc.
- approve operations/equipment not currently addressed by the regulations.

Secondly, selected representatives were approached to provide information on their understanding of the organization of the regulatory agencies and their opinions on the effectiveness and performance of these regulatory regimes. The texts of letters of inquiry sent to various industry groups are reproduced in Appendix C2. The industry representatives approached fall into three categories:

1. Operators: Mobil Oil Canada; Canterra Energy; Petro Canada Exploration; Husky/Bow Valley; Shell Canada
2. Drilling contractors: Zapata Offshore; Sedco; Global Marine Drilling

3. Service Industry Representatives: Crosbie Offshore Services Ltd.; K.D. Marine; Sealand Helicopters; Universal Helicopters; Balder Offshore; Okanagan Helicopters; Harvey Offshore Services

In the case of operators and drilling contractors, industry representatives were asked to comment on:

- Regulations covering the structural integrity, stability, and operations of mobile ocean drilling units.

- Regulations covering well-control, drilling procedures, equipment and the like.

- Regulations covering life-saving equipment and procedures and marine emergency training.

- Government inspections and monitoring of ongoing operations.

- Procedures for approval of contingency plans, drilling permit applications and other relevant submissions to government.

- Procedures for development, modification, and enforcement of, or exemption from regulations.

- Mechanisms for government regulation of East Coast offshore operations which directly affect the safety of personnel.

In the case of the service industries, representatives were asked to comment on:

- Regulations covering the requirements for vessels or aircraft used in the supply, service or other operational support of offshore drilling, including required facilities and operational procedures.

- Regulations covering life-saving equipment and procedures and marine emergency training.

- Government inspections and monitoring of ongoing operations.

- Procedures for development, modification, and enforcement of, or exemption from regulations.
- Mechanisms for government liaison with industry.
- Any other aspect of government regulation of East Coast offshore operations directly affecting the safety of personnel.

3.2 ANALYSIS OF RESPONSE

3.2.1 Overview

Based on the information gathered and on the experiences of members of the study team, certain concerns about the organization and management structures of the regulatory agencies were identified. After careful review, those areas that were considered significant and relevant were selected for further analysis in this section.

Many of these concerns relate directly to some possibility of a safety problem occurring. Others are linked only indirectly to safety issues but are included in the study on the premise that a deficiency in any one component of a complex system may weaken the entire system.

The actual problems that may arise from these areas of concern are difficult to predict without a comprehensive risk analysis. Here, it suffices to say that adverse consequences affecting safety could result from organizational deficiencies in regulatory agencies.

The concerns that have been categorized in order of presentation earlier in the report are: general organization, policy and effectiveness; development of regulations; applications and permits; inspection and monitoring activities; safety areas having special requirements; and liaison of primary agencies with other groups.

3.2.2 General Organization, Policy and Effectiveness

Perhaps the most important problem that emerged from both our analysis and the literature was the overall question of structural organization and jurisdiction. Identified as the key weakness in the offshore regulatory system of Great Britain by the Burgoyne report, this controversial area has also been cited as problematic by a number of other countries. The specific safety problems created by overlapping or unclear divisions of responsibility are hard to predict, but it appears evident that such confusion may lead to conflicting patterns of enforcement, delays in preparing or amending legislation, and non-cooperation on the part of frustrated industry representatives.

The mere fact that this same problem crops up in discussions of regulatory effectiveness in many different countries and systems, speaks of the inherent difficulty involved in setting up a smooth and effective structure to regulate offshore exploration. The reasons for this difficulty are directly related to the special status of offshore drilling as an area of occupational endeavour. There are natural divisions and overlaps between marine and stationary operating guidelines; between provincial, national and international jurisdiction; and between the often conflicting but equally pressing goals of vigorous and rapid development of much-needed resources and carefully reasoned rules to protect people and property in an environment that is far more dangerous than any encountered onshore. The day-to-day problems created by overlapping or inconsistent regulatory responsibility are magnified in times of crises when the heightened risk factor and unpredictability require a speed of response and flexibility of approach that are impossible in a structure that is made up of many loosely related parts.

Offshore operations in Eastern Canada have had their share of problems arising from this source. A number of authorities on both federal and provincial levels exercise jurisdiction over or at least influence safety matters. These groups include COGLA, CCG, CEIC, DIAND, Worker's Compensation, Transport Canada as well as the Newfoundland and Labrador Petroleum Directorate.

In the federal system, COGLA claims to be the window on the industry and the co-ordinating body for the other government departments. This, however, is not always the case, and perhaps shouldn't always be the case. The study group found evidence of confusion in the federal system on the part of some personnel regarding the allocation of responsibilities for certain areas, and, even when the lead agency role of COGLA was recognized in principle, in reality it is apparent that many of the secondary agencies deal directly with industry independently of COGLA and sometimes without COGLA's knowledge. This generally occurs in areas where other government departments have traditionally exercised and continue to exercise jurisdiction, such as CCG with respect to regulation of coastal and marine operations and CEIC with respect to National employment requirements.

There are some practical reasons for these discrepancies. Some lack of clarity and co-ordination is to be expected as the federal system is just concluding a substantial change in the assignment of responsibilities, for example, the MOU between COGLA and CCG and the draft MODU standards.

There are also some practical reasons for allowing industry to deal directly with other departments in certain circumstances.

In some marine matters, for example, it may be important for the operator to deal with whichever department of government has the expertise called for, and the authority to perform inspections and follow up on required action, without going through COGLA first.

The main source of problems here may not be the particular assignment of responsibility to COGLA or elsewhere, but rather the confusion about where that responsibility lies. The same element of confusion exists in industry, particularly among companies that are new to East Coast drilling, when it comes to determining the routines which must be followed in getting approvals and in complying with regulations in general. The present regulatory organization and structure are of recent vintage, and there seems to be little general knowledge in the industry about the organization and responsibilities of the various regulatory groups and the regulations themselves. There is no widely circulated source of updated information clearly delineating these lines of responsibility, or explaining current regulations, directives and guidelines. This lack of systematic information is seen as an important gap in the smooth operation of the system.

A second area of concern, closely related to the first, is the danger of overlap and occasional competition between agencies which share jurisdictional control. There seems to be some feeling within industry for example that competition and communication break-downs exist between COGLA and CCG.

This situation is not perceived by the study team as a serious problem. The two agencies have different approaches to regulation and the technical backgrounds of their personnel are different. Therefore, what appears as a communication breakdown may simply be differences of

opinion. In actual fact, the study team observed that communication between the two is reasonably good, especially at the middle management level.

Where there may be some difficulty, according to past experience, is liaison with respect to initial inspection and survey of drilling units. On some occasions, it has been reported, the process has been poorly co-ordinated with departmental representatives acting independent of each other with no central co-ordination.

Competition between COGLA and CCG probably does exist. However, the study team feels that it is a natural competition that would exist in any organization. No adverse effects on safety are perceived because of this. Indeed, competition can be beneficial in that it increases the thoroughness of both.

A third major problem in the broad area of general organization and policy which has been alluded to above concerns the inherent conflict between the goals of industry and those of government. Regulatory agencies are sometimes seen as ruling without considering adequately the cost, efficiency or practicality of their requirements from an industry point of view, or as ruling on the basis of political contingency rather than fundamental safety considerations.

On a local level there appears to be little justification for these statements. Although they are widely held beliefs, it is difficult to identify concrete examples where safety was actually or potentially adversely affected by political compromise. Government regulatory agencies appear to give considerable thought to cost, efficiency and practicality in their deliberations and decision making. However, these agencies are not completely

autonomous. They must respond to the political level and provide information and professional advice. The Minister is empowered to make decisions entirely on his own and the degree to which agency information or advice is incorporated is a discretionary matter for the Minister himself.

Consequently, if indeed decisions on operations are made on the political level which reflect little or no thought to cost, efficiency or practicality, one can only assume that either poor technical advice was given by the agency or that good advice was not properly taken into account. Another possibility, though remote, is that the agency is not consulted at all before a Ministerial decision is made.

In any event, from the perspective of the agencies themselves, the study team did not discover any information which indicated that they made decisions of a political nature or that they provided poor technical advice to their Ministers.

A further area of policy concern among some representatives of industry is the adherence of regulatory agencies to Canadian content quotas in equipment and manpower. Although some people felt that this policy could have detrimental effects on safety standards, the study team found little evidence to support their claim.

Industry is responsible for the safety of its own operations and must satisfy itself first and foremost that safety is maximized. If indeed industry feels that a particular requirement, whether it is Canadian content or any other requirement, is detrimental to safety, it must bring this to the attention of the regulatory agencies and show them why there is a problem. For their part, regulatory agencies, especially federal, appear to respond responsibly when industry puts forward well documented

evidence or analyses supporting alternatives to particular requirements.

If there is a deficiency in the system, it is that no formal mechanism is in place that gives industry the opportunity to make known their views and to have their concerns systematically and consistently addressed.

3.2.3 Development of Regulations

The chief concern in this area is closely related to the last point covered, and, again, is typical of problems which arose during the Burgoyne investigation. It is very difficult to bring industry and government together to reach a consensus on safety problems encountered and possible solutions. One frequent result of this situation is that there is little industry input into the development of regulations until very late in the decision-making process, if there is any at all.

This view is held on a local level in spite of the fact that agencies such as COGLA and CCG in the federal system and the NLPD in Newfoundland have made it a practice to circulate proposed regulations and solicit the views of industry. The objective of these groups is to consult with industry and to utilize their advice. However, consultations are informal and there is no systematic way of involving industry at the early stage of development of particular regulations. It is also not clear to the study team, the extent to which industry comments are analyzed and incorporated into actual decision making.

One thing that appears to be lacking is an internal set of procedures/guidelines that establish:

- (a) the methodology for designing and promulgating regulations
- (b) the basis upon which they are reviewed and amended and
- (c) the methodology for handling industry requests for change.

Again, these criteria, once established should be well publicized within the industry.

A second, closely related concern is the fact that although there are workers' safety committees on drilling units. In the federal system, there is no formal mechanism for these committees to have discussions with regulatory authorities and to make recommendations concerning general and specific safety regulations.

As the workers themselves are highly aware of safety hazards, especially those of an occupational or working place nature, their input is seen as a significant asset.

3.2.4 Applications and Permits

The approval to drill procedure is an important one in the functioning of any petroleum regulatory agency. When this approval to drill is granted, it is assumed that all necessary government requirements have been met.

There appears to be a problem in this area within the Eastern Canada system. There is no formal "sign off" procedure in place to ensure that assessments and evaluations done prior to approvals are all done to the same level of effort. Without such a system, the agencies' approvals are not as clear-cut as they could be and operators have had to comply with new requirements after being given approval to drill.

Another specific instance of uncertainty within the local system of regulatory approval is the fact that there does not seem to be any formal procedures for approval of lifesaving equipment. There are a wide variety of products available which may or may not meet current regulations and the procedure used to determine this appears to be ad hoc and time consuming. There are reports of specific situations where there was doubt about the compliance of equipment brought into Canadian waters on foreign flag units, and where this doubt existed for some months before compliance was established. In the meantime, the possibility existed of non-compliance being established which would have meant that inferior safety equipment had been employed for a significant period.

While this is obviously not a desirable situation, the study team does not see a pressing need for significant changes. The number of new products on the market today makes it extremely difficult for an agency in Canada to adequately assess them all in a short time. At the same time, industry bears some of the responsibility in its assessment of safety equipment and one may assume that, in the main, where equipment already exists on a unit, it meets a particular operator's or owner's internal standards.

There does, however, appear to be a need for more readily accessible information on the procedures involved in getting approval for new equipment.

3.2.5 Inspection, Monitoring and Enforcement Activities

Regulatory agencies issue directives, guidelines and standards and it is often unclear how mandatory they are. One of the recommendations of the Burgone report in 1980 specified the structure and degree of rigor of written regulations. A similar "tightening up" would seem

appropriate in our case as there is considerable confusion in the industry concerning these matters.

The understanding within the federal regulatory agencies themselves is reasonably good, i.e. that directives are specific to particular safety problems, and must be adhered to in order to remain in full compliance with regulations; that guidelines are compilations of directives and safety notices and that standards are non-mandatory.

The main problem at the local level comes in the lack of understanding within industry of the degree of rigour of some of these requirements. On the whole, there is no definition that sets out the legal authority of each of the elements.

It is also important in any regulatory system that these directives and guidelines (as well as actual regulations) are administered fairly and consistently. There appears to be some validity to industry concerns at the local level in this regard. The study team is aware of occasions when regulatory personnel have contacted industry personnel to inquire about actions taken or planned to be taken although the limits specified in a guideline had not yet been reached.

This type of premature intervention may not have significant adverse effects on safety conditions. Nevertheless, the premature involvement of regulatory agencies potentially creates an atmosphere in which the industry feels that the agencies do not have confidence in either the limits they have set or the ability of industry to respond adequately if these limits are exceeded. If regulatory agencies are to gain the full cooperation of

industry, they must be willing to trust companies to act responsibly.

Yet another specific area of uncertainty in the monitoring and enforcement of regulations relates to Certificate of Fitness Limitations. In the Newfoundland system, there appears to be a lack of clarity with respect to the status of limitations listed on safety certificates for drilling units. Limitations are applied through directives and guidelines subsequent to the issuance of the Certificate of Fitness which supercede those included in the Certificate.

The Newfoundland Certificate of Fitness for a particular unit is issued upon compliance with certain regulations. The certificate includes limitations on the operation of the unit and it remains in effect for five years. However, from time to time, it is evident that new requirements arise which supercede the limitations imposed by means of the certificate.

Over the five-year life of the certificate, it is expected that there may be exceptional circumstances which warrant changes in the requirements. For the certification process to have meaning, these occasions should be rare.

The problem appears to be a lack of communication between provincial certification and operations groups. The activities of these groups do not appear to be as closely related as they should be to ensure that limitations are well thought out and consistent at the time of issuance of Certificates of Fitness.

Fairness and consistency should extend to all inspection activities carried out by the regulatory agencies. One area of concern identified by the study team

related to the inspection of pressure vessels and elevating devices which appear to be the subject of overlapping and conflicting regulation.

Traditionally, the inspection of boilers, pressure vessels, elevators and lifting devices is carried out by trained inspectors representing provincial Labour and Manpower departments. Even when this is clearly a federal responsibility, as in the case of federal government buildings, Labour Canada has often delegated responsibility to provincial inspectors. Requirements within Canada have been developed over a long period and a great degree of standardization exists.

In the case of vessels, these items of equipment are also the subject of inspection by classification societies and the Canadian Coast Guard. There is often a difference in requirements and methods of inspection in a marine environment.

In the case of semi-submersible drilling units, many of these agencies feel they have to conduct inspections - often to different standards. For example, one contractor cited the example of a particular MODU having had these items inspected by no less than five different agencies.

3.2.6 Safety Areas having Special Regulatory Requirements

A general review of the broad spectrum of safety regulation activities carried out by the agencies under consideration brought to light a number of specific areas of concern.

CONTINGENCY PLANS

The study team noted that environmental safety and personnel safety were treated by the same process, i.e. contingency plans respecting both areas are handled by the same people in the agencies. This is seen to be a good idea from an administrative point of view as well as a practical perspective in that there is consistency of approach. The potential problem perceived by the study team is that if conflicting priorities exist, a situation could occur where there could be doubt about which actions come first. All the players in a contingency situation whether in regulatory agencies or in industry, should be extremely cognizant of priority actions.

HELICOPTER OPERATIONS

A second special area of regulatory treatment involves helicopter operations. Although most aspects in this area are adequately regulated, there seems to be some confusion concerning helicopter landing facilities and the division of responsibility between Transport Canada and COGLA.

Helicopter industry representatives made strong and repeated suggestions that all aspects of helicopter operations be regulated solely by Transport Canada. Industry representatives pointed to conflicting international standards for drilling unit heliport facilities, both in design and equipment.

A particular area of concern was the lack of standardization in communications facilities between helicopters and drilling units. The issue is further complicated by the plethora of communications equipment

employed on a large drilling unit included HF, VHF and satellite equipment for internal as well as external communication with shore, helicopters, support vessels, other rigs, etc.

FOREIGN VS CANADIAN FLAG

In the federal system, there is a variance of regulatory control among drilling rigs depending on the country of registry. Canadian flag rigs come under tighter control than foreign flag rigs which are handled by the CCG in a less stringent way. Consequently, two rigs could be operating side by side and not be subject to the same degree of regulations nor subject to the same scrutiny of safety features.

The study team feels that this is a significant concern. That is not to say that foreign flag rigs are less safe than Canadian flag rigs. They may be equally so or even more so depending on the stringency of the regulations in the flag country. What is being said here is that the present regulatory system appears to have a fundamental flaw in that there is inconsistency of treatment. The reasons for this are self-evident. The marine industry due to its international nature must be flexible and countries must accept marine certification from other countries. The international codes and standards developed through IMO and SOLAS were attempts at standardization. At present, the IMO MODU Code forms the basis of the federal interim MODU standards and their development should ensure a high degree of standardization of general rules regardless of flag.

There is, however, still the problem of assessing the design, construction and operation and ensuring compliance with specific federal requirements.

CCG OFFSHORE GROUP

The general approach of having Coast Guard inspect drill units was reviewed. There appears to be some feeling within CCG that semi-submersible drillrigs are just another form of ship and can be tested with conventional techniques.

The study team believes that the strength of the CCG is primarily derived from its long history of regulating the marine industry. Therefore treating semi-submersible drillrigs as another form of ship is natural for the CCG and in the main is a sensible approach. However, there are enough significant differences between the design, construction and operation of semis and ships to warrant very special attention. For example, the fact that a semi is utilized as a drilling platform connected to a seabed wellhead means that its operation is dissimilar to that of most ship operations with which CCG is familiar.

It is evident that CCG appreciates the fundamental importance of understanding marine aspects unique to offshore drilling operations and, as mentioned earlier, they are establishing a group to deal exclusively with this area.

MANAGEMENT STRUCTURE ON DRILLING UNITS

The study team feels that the designation of responsibility for the management structure on drilling units is really a regulatory matter. Whether or not there should be a specific regulation in place is beyond the scope of this study. In any event, the authority to pass and enforce the regulation exists.

CHAPTER 4

CONCLUSIONS AND RECOMMENDATIONS

4.1 CONCLUDING REMARKS

The study team feels that there is an acknowledged need for government agencies to regulate the safety of drilling operations under legislative mandate. It is of paramount importance that every operator and his operations plan be closely scrutinized by a regulatory authority to ensure that the operator can demonstrate the capability to carry out the plan in a safe manner and is fully cognizant of the potential problems at hand. Where a regulatory authority perceives a problem, they are bound to initiate some action to solve it. An example of such an action might be informing the operator of a concern and requesting that the operator show why the authority should not be concerned. Another example might be conducting research and using the results to develop an improved regulation.

As an overall observation, the study team feels that the drilling activities themselves are reasonably well regulated in both the federal and provincial systems. Any significant organization and management problems seem to arise for the non-drilling activities, that is, the operation of the drilling unit and air and marine support operations. To a great extent, this is due to the fact that, until recently, little emphasis has been placed on the non-drilling activities.

The recent re-organization at the federal level and the creation of a provincial certification system in Newfoundland have contributed greatly to filling the gaps in non-drilling regulations. The study team feels that, in the main, the present structures are adequate. The problems

that have been identified are not fundamental and, therefore, can be readily corrected.

4.2 RECOMMENDATIONS

The study team's recommendations are listed below. They address the concerns identified in Chapter 3 and are based on the analyses conducted. Recommendations relating specifically to either the federal or the provincial systems are noted as such. Otherwise the recommendations apply to both systems.

1. In the federal system, the responsibility of the lead agency (i.e. COGLA) for the performance of other agencies should be clarified.
2. A clear description of the federal regulatory system including responsibilities and liaison mechanisms should be prepared and made available to all relevant safety agency personnel. This document should also be circulated to industry.
3. A systematic effort should be made to educate industry on the routines they must follow in getting approvals and in complying with regulations in general.
4. Regulatory agencies should establish an internal set of procedures/guidelines that set out the methodology for designing and promulgating regulations, the basis on which regulations are reviewed and amended, and the methodology for handling industry requests for changes.
5. Provision should be made for a formal appeal system where industry has the opportunity to put forward to regulatory agencies alternatives to particular requirements.

6. Industry should be invited, consistently, to provide input at the early stage of development of regulations.
7. Regulatory agencies in the federal system should establish a formal mechanism for input of workers' safety committees into safety regulatory matters.
8. Regulatory agencies should establish formal "sign off" systems to ensure that assessments and evaluations done prior to approvals are done to the same level of effort.
9. A definition that sets out the legal authority of directives, guidelines and standards should be generated and published.
10. Regulatory agencies should be consistent in the degree to which they get involved in the administration of guidelines.
11. Regulatory agencies should have recognized procedures in place for testing and approval of safety equipment.
12. In the Newfoundland system, communication should be improved between groups responsible for certification of drilling units and for operations to ensure that Certificate of Fitness operating limitations and limitations imposed on the operations by the operations group are consistent.
13. Priorities should be clearly established by the regulatory agencies for actions to be taken in contingency situations involving both environmental and personnel safety.
14. COGLA in consultation with Labour Canada should formulate a standard set of regulations governing the

inspection of pressure vessels and elevators. These regulations should allow for the acceptance of inspection certificates issued by recognized classification societies, Coast Guard or provincial authorities for inspections to the same standard.

15. COGLA and Transport Canada should formulate a workable set of standards for helicopter landing facilities taking due consideration of developing international standards.

16. COGLA and Transport Canada together with Canadian Coast Guard and the Department of Communications should rationalize and match requirements for communications equipment on drilling units and helicopters, taking due notice of requirements for back-up and emergencies.

17. In the federal system, an attempt should be made to ensure that, to the greatest degree possible, all drilling units are treated equally with respect to safety regulatory control regardless of their flag state. Consideration might be given to a wider usage of the classification societies which operate worldwide.

18. There should be improved co-ordination of initial inspection and survey of drilling units to minimize any overlaps and gaps.

APPENDIX A

MEMORANDA OF UNDERSTANDING

APPENDIX A1

A MEMORANDUM OF UNDERSTANDING CONCERNING THE ESTABLISHMENT OF
"THE CANADA OIL AND GAS LANDS ADMINISTRATION" (COGLA) BETWEEN
THE MINISTERS OF ENERGY, MINES AND RESOURCES AND OF INDIAN AND
NORTHERN AFFAIRS

APPENDIX A1

A MEMORANDUM OF UNDERSTANDING CONCERNING THE ESTABLISHMENT OF "THE CANADA OIL AND GAS LANDS ADMINISTRATION" (COGLA) BETWEEN THE MINISTERS OF ENERGY, MINES AND RESOURCES AND OF INDIAN AND NORTHERN AFFAIRS.

TO MEET THE REQUIREMENTS:

- For consistency in the administration of the provisions of the Canada Oil and Gas Land Regulations, the proposed successor legislation, the Canada Oil and Gas Bill C-48, and the Oil and Gas Production and Conservation Act, and
- For the efficient deployment of scarce human resources and the effective use of their expertise.

TO PROVIDE OPTIMUM SUPPORT

- To the Minister of Energy, Mines and Resources in respect of the Government's National Energy Program, and
- To the Minister of Indian and Northern Affairs in respect of the Government's Northern Policy.

IT IS AGREED BY THE UNDERSIGNED

- That the oil and gas management functions of the two departments will be pooled in a single organization

to be known as the Canada Oil and Gas Lands Administration (COGLA). This organization will administer referenced legislation for the Minister (INA) with respect to his jurisdiction for Canada Lands in the Yukon, the Northwest Territories, and the adjacent offshore areas, and for the Minister of (EMR) with respect to his jurisdiction for Canada Lands offshore the East Coast, the West Coast, in the Hudson Bay-Hudson Strait region (jurisdictions delineated by line of administrative convenience defined in Schedule "VI", Canada Oil and Gas Land Regulations), and onshore in federal public lands other than in the Yukon and Northwest Territories.

THE CANADA OIL AND GAS LANDS ADMINISTRATION

- The initial organization of COGLA shall be set out in AN Appendix to this agreement. The elements of the structure and the internal authority relationships may be changed later to improve performance or accommodate unforeseen needs.
- The concepts underlying the initial organization shall include:
 1. The Administrator will be the "designated official" of the Minister (EMR) and the Minister (INA) as required by law for the exercise of their respective powers under the Canada Oil and Gas Act, and the Oil and Gas Production and Conservation Act. Until Bill C-48 is passed the Administrator will administer the present provisions of the Canada Oil and Gas Land Regulations.
 2. The Administrator will have responsibility for the Canada Oil and Gas Lands Administration. The Administrator will report to the Deputy Minister (EMR) and the Deputy Minister

(INA), and at their direction will relate on policy matters to the Senior ADM, Northern Affairs Program (INA) concerning Northern Policy.

3. In order that Energy Policy and Northern Policy may be implemented through the Canada Oil and Gas Lands Administration, the Administrator shall consult with the Senior ADM (Energy) and the ADM (NAP) to determine consultative mechanisms, policy guidelines and the use to be made of expert staff in EMR and INA.
4. The Administrator will establish an information system and day-to-day working links with other EMR and INLA Branches to inform and obtain feedback from, the Branches on COGLA policies and practices as they effect the mandates of the two parent departments, to ensure that the broader responsibilities of both Ministers are reflected in COGLA decisions.
5. There will be a COGLA Policy Review Committee whose initial membership will include the Administrator, the Senior ADM (Energy), the ADM (NAP), the ADM Energy Strategy and the ADM Petroleum. This Committee may be enlarged or changed but the principal ADM for energy policy, the principal ADM for norther policy and the Administrator will be entrenched members.
6. The mandate of the Policy Review Committee shall be to provide policy guidelines and review COGLA policy decisions with a view to ensuring that the latter are consistent with the requirements of Energy Policy and Northern Policy.
7. The Administrator will maintain separate records and accounts of the oil and gas rights and associated

expenditures and revenues (fees, rentals and royalties) and Environmental Studies Revolving Funds respectively under the jurisdiction of the Minister (INA) and of the Minister (EMR)

NORTHERN CANADA OIL AND GAS LANDS COORDINATION DIRECTORATE

- INA may establish and maintain a directorate within the Department to serve as a principal point of liaison with COGLA on oil and gas matters. The head of this directorate will have complete access to all information in COGLA concerning northern oil and gas lands, and will participate in meetings of senior management, COGLA, with industry clientele regarding matters of significant northern interest.

OTHER ARRANGEMENTS

- Fifty-seven person-years in the Resource Management Branch (EMR), and fifty-four person-years within the Oil and Gas Sector of the Northern Non-renewable Resources Branch (INA) will be transferred to COGLA, with related resources.
- The budgeted resources of both EMR and INA for these functions will be transferred in their entirety to COGLA but shall be reflected in the estimates of both Departments.
- INA will retain eleven person-years and related resources to staff its liaison directorate.
- INA through the Northern Affairs Program shall retain responsibility for its provision of environmental management services to COGLA in relation to oil and gas administration in the Territories, including its offshore.

- The Departments undertake to ensure that all personnel will have an equal opportunity for new positions in COGLA and for future growth and development.
- COGLA will be the principal point of contact for the oil and gas industry concerning operational matters under the referenced legislation. In order to emphasize its role as serving the two Ministers jointly, every effort will be made to locate the Administration outside the offices of either Department, and the title on stationery or relevant forms of COGLA shall identify both Departments.
- The funding of COGLA will be the joint responsibility of the two Departments. COGLA shall be subject to normal governmental controls by, and obtain professional administrative services from, relevant Branches in EMR (finance, personnel, etc.)
- The two Deputy Ministers have signed a letter of agreement concerning COGLA relationships with policy and operational activities undertaken by other EMR and INA units.

APPENDIX A2

A MEMORANDUM OF UNDERSTANDING BETWEEN
THE CANADIAN COAST GUARD
AND THE
CANADA OIL AND GAS LANDS ADMINISTRATION
REGARDING THE PROVISION OF MARINE SERVICES
TO THE OFFSHORE AREAS OF PETROLEUM DEVELOPMENT

APPENDIX A2

A MEMORANDUM OF UNDERSTANDING BETWEEN THE CANADIAN COAST GUARD AND THE CANADA OIL AND GAS LANDS ADMINISTRATION REGARDING THE PROVISION OF MARINE SERVICES TO THE OFFSHORE AREAS OF PETROLEUM DEVELOPMENT

OBJECT

1. The object of this memorandum of understanding, hereinafter referred to as "Understanding", is to set out:
 - (a) the terms and conditions whereby the Canadian Coast Guard (CCG), at the request of the Canada Oil and Gas Lands Administration (COGLA), will assess or inspect installations, structures, vessels and support craft used in offshore energy exploration and development;
 - (b) the manner in which CCG and COGLA will fulfill their respective responsibilities in relation to accident investigation involving any installation, structure, vessel or support craft used in energy exploration and development;
 - (c) the response of CCG and COGLA to incidents involving any installation, structure, vessel or support craft used in energy exploration and development that have caused pollution or that pose a threat of pollution;
 - (d) the manner in which CCG and COGLA will cooperate in research and development in relation to offshore resource development; and
 - (e) the organization whereby CCG and COGLA will implement this Understanding and review and update the schedule attached hereto.

MANAGEMENT COMMITTEE AND CONTROL PROCEDURES

2. This Understanding is subject to the condition that CCG will receive the resources, to be determined by the Management Committee referred to in paragraph 3, it requires to fulfill its additional responsibilities under this Understanding.

3. CCG and COGLA agree to establish the following Committees:

- (a) a Management Committee composed of not more than two senior representatives of each agency; and
- (b) a Technical Committee composed of technical, administrative and advisory officials of both agencies.

4. The purpose of the Management Committee is to

- (a) ensure that the overall purpose of this Understanding is met;
- (b) review operational implementation in relation to effectiveness and expenditure; and
- (c) identify and resolve issues arising out of the implementation of this Understanding.

5. The purpose of the Technical Committee is to:

- (a) provide overall technical guidance in the implementation of this Understanding;
- (b) provide contact with other agencies on technical matters arising out of the implementation of this Understanding; and
- (c) determine the scope, manner and frequency of any assessment or inspection contemplated by this Understanding.

6. For the guidance of the Technical Committee in fulfilling its purpose under paragraph 5(c) any assessment or inspection by the Ship Safety Branch of CCG contemplated by this agreement may include the matters set out in the Schedule and it shall be the additional function of that Committee to review and keep up to date the said Schedule.

7. Each Committee may determine its own rules or procedure and what constitutes a quorum.

8. The Technical Committee, which shall be chaired by a representative of COGLA, may form such subcommittees and working groups as it deems necessary to study particular problems or to work on specific projects.

ASSESSMENT AND INSPECTION

9. At the request of COGLA, and subject to the conditions set out below, CCG will assess or inspect any installation, structure, vessel or support craft used in energy exploration and development not otherwise subject to survey or inspection by CCG under the Canada Shipping Act or under the Arctic Waters Pollution Prevention Act.

10. In carrying out such assessments or inspections, CCG will, unless otherwise determined by the Technical Committee, assess or inspect the installation, structure, vessel or support craft in the same manner and to the same extent as if such installation, structure, vessel or support craft were subject to survey or inspection by CCG under the Canada Shipping Act or under the Arctic Water Pollution Prevention Act.

11. It will be the responsibility of COGLA to make arrangements with operators to enable CCG inspectors to carry out such assessments or inspections contemplated by paragraph 9 in the form and in the manner determined by the Technical Committee.

12. On completion of each assessment or inspection under this Understanding, the CCG inspector will make a report to be forwarded to COGLA.

13. CCG will use its best efforts in responding to any request for assessment or inspection taking into account its other responsibilities to survey and inspect ships under the Canada Shipping Act or under the Arctic Waters Pollution Prevention Act.

ACCIDENT INVESTIGATION

14. Recognizing that the Minister of Energy, Mines and Resources, the Minister of Indian Affairs and Northern Development and the Minister of Transport have respectively responsibility for accident investigation under legislation they administer it is agreed, for the purpose of avoiding unnecessary duplication, that CCG and COGLA, in advising Ministers in relation to any particular incident will apply the following guidelines:

- (a) for an incident appertaining solely to drilling activities, accident investigation should be conducted by persons appointed by the Minister of Energy, Mines and Resources or the Minister of Indian Affairs and Northern Development, as appropriate;
- (b) for an incident appertaining solely to naviagability, seaworthiness and marine safety, accident investigation should be conducted by persons appointed by the Minister of Transport; and
- (c) for an incident that appertains to both drilling activities and to navigability, seaworthiness and marine safety, or that is of an undetermined nature that could appertain to either or both a) and b) above, accident investigation may be conducted by a joint investigation team formed by persons appointed jointly by the appropriate Ministers.

15. If during investigation of an incident, initiated pursuant to either subparagraph 14(a) or (b), it appears that subparagraph 14(c) is applicable, it is agreed that the appropriate Ministers will be advised for the purpose of obtaining appointment of a joint investigation team as contemplated by the subparagraph.

OIL POLLUTION COUNTERMEASURES

16. Bearing in mind that the primary responsibility for pollution countermeasures in any incident rests with the operator of the installation, structure, vessel or support craft involved in the incident, and bearing in mind, further, that the Ministers have authority in accordance with legislation administered by them to intervene under certain circumstances in incidents that cause or threaten to cause pollution, the following guidelines are established with a view to ensuring swift response in any given incident and to avoid unnecessary duplication or confusion:

- (a) COGLA has responsibility for administration of the pollution contingency countermeasures to be adopted on an installation or structure when on site and not being transported or not being used in navigation;
- (b) CCG has responsibility for administration of pollution contingency countermeasures to be adopted on vessels and on installations or structures being transported or being used in navigation;
- (c) in the event of a spill, COGLA will exercise the functions of lead agency for oil spills originating from installations or structures when on site and not being transported or not being used in navigation and for oil spills associated with drilling operations;
- (d) CCG has responsibility as lead agency for oil spills originating from vessels, and from installations or structures being transported or being used in navigation;
- (e) the lead agency has responsibility for undertaking preparatory measures including contingency planning,

training, and liaison with provincial governments, resource agencies, private industry and other interested parties;

- (f) the lead agency has responsibility for providing resources and expertise in an emergency response, over and above those in a contingency inventory provided jointly by interested parties;
- (g) the lead agency has responsibility for organizing and implementing response measures, and assuring the provision of funds for any emergency response;
- (h) either party as lead agency may call upon the other to act as a resource agency during an emergency response;
- (i) the resource agency will provide available resources, equipment and expertise as appropriate to the nature of the emergency response;
- (j) when those primarily responsible for pollution counter-measures are unable or fail to implement effectively clean-up of the waters or the shoreline, COGLA may specifically request CCG to undertake clean-up, in which case COGLA shall, unless otherwise agreed, reimburse CCG for the associated clean-up costs;
- (k) in the event of an incident, each party agrees to immediately inform the other thereof and provide as complete information as possible.

MARINE RESEARCH AND DEVELOPMENT

17. CCG and COGLA agree to cooperate and assist each other in research and development (R&D) in respect of offshore exploration, production and related shipping activities.

18. Such cooperation and assistance will take full account of any requirements for confidentiality of results, especially where non-governmental parties are involved in any project on the understanding, however, that restrictions on the dissemination of information will be kept to a minimum whenever possible.

COSTS

19. COGLA will reimburse CCG all incremental expenses associated with carrying out its obligations under this Understanding.

20. For the purposes of paragraph 19, incremental expenses means any expense incurred by CCG in carrying out its obligations under this Understanding which would not have been incurred in the absence of this Understanding.

SCHEDULE

1. Any assessment or inspection contemplated by this Understanding may include:

- (a) the hull or structure, the machinery, electrical equipment, appliances, appurtenances, equipment, manning, practices and procedures;
- (b) seaworthiness and navigability, including the design, strength, stability, watertight integrity, damage control and reserve buoyancy, safety and environmental protection;

but shall exclude parts of such structure or equipment and procedures related exclusively or substantially to exploration and drilling, covered by regulations administered on behalf of the COGLA by a government department or agency other than the CCG.

2. Initial assessment of an installation, structure, vessel or support craft by CCG, the specific requirements to be determined by the Technical Committee for each case, may include the following:

- Submission to the CCG for their consideration, plans and data that include:

- structural strength analysis, stability test and limiting criteria data, machinery and electrical equipment data, ballast systems and emergency procedures data, limiting meteorological data, operational suitability and emergency procedures:

- Fire and safety systems and emergency procedures including fire safety zones, firefighting equipment and lifesaving appliances:

- Navigational equipment, appliances and procedures:

- Communication equipment and procedures:

- Manning complements, including number and grades of certificated personnel for safety watchkeeping and emergency procedures:

- Language requirements for operating and instructional manuals, operating equipment and emergency signs, and for operating personnel; and

- Satisfactory proof of the technical competency and physical ability of operating personnel.

3. Subsequent assessment of an installation, structure vessel or support craft by the CCG, as necessary may include the following:

- Ongoing, periodic and special surveys, inspections and testing of hulls, structures, appurtenances, machinery and equipment, navigational equipment, emergency equipment, appliances and procedures including safety, firefighting, lifesaving and pollution prevention; spares, stores, supplies and like items.

- Inspection of logbooks, manuals documents and similar records of ongoing activities, machinery and equipment certificates, test and inspection and like certificates, personnel certificates of qualification, competency or service, proof of medical fitness and all such material.

- Inspection of personnel with respect to the required complement and individual ability for purposes of operational and navigational safety and emergency duties.

- Inspection of signs, instructions, pamphlets and like material for giving directions, information instructions and such related to operational activities, emergency activities and safety.

APPENDIX B

FEDERAL LEGISLATION AND REGULATIONS
(existing and proposed)

APPENDIX B

LEGISLATION AND REGULATIONS (existing and proposed)

1. CANADA OIL AND GAS ACT

- Canada Oil and Gas Land Regulations (1979) (originally promulgated pursuant to the Public Lands Grants Act and the Territorial Lands Act)
- Canada Oil and Gas Interests Regulations (proposed)
- Canada Oil and Gas Royalties Regulations (proposed)
- Environmental Studies Revolving Funds Regulations (proposed)

2. OIL AND GAS PRODUCTION AND CONSERVATION ACT

- Canada Oil and Gas Drilling Regulations
- Canada Oil and Gas Operations Regulations (proposed)
- Canada Oil and Gas Production Regulations (proposed)
- Canada Oil and Gas Geophysical Regulation (proposed)
- Canada Oil and Gas Structures Regulation (proposed)
- Canada Oil and Gas Regulations - Diving (proposed)
- Canada Oil and Gas Pipelines Regulations (proposed)

3. PUBLIC LANDS GRANTS ACT and TERRITORIAL LANDS ACT

- Canada Oil and Gas Lands Regulations (partially revoked or superseded by the Canada Oil and Gas Act)
- Canada Oil and Gas Drilling and Production Regulations (partially replaced by the Canada Oil and Gas Drilling Regulations 1979)
- Canada Mining Regulations (Administered in NWT and Yukon by DIAND).

4. PUBLIC LANDS GRANTS ACT

- Public Lands Oil and Gas Regulations
- Public Lands Mineral Regulations
- Offshore Mining Regulations (proposed - will apply to offshore Canada lands).

5. PUBLIC LANDS GRANTS ACT and FINANCIAL ADMINISTRATION ACT

- Public Lands Leasing and Licencing Regulations (govern public lands for the disposition of which there are no other legal provisions).

APPENDIX C

TEXT OF CORRESPONDENCE

APPENDIX C1

TEXT OF LETTERS OF INQUIRY
TO PRIMARY AGENCIES

NATIONAL PETROLEUM AND MARINE CONSULTANTS LIMITED

11th FLOOR, ROYAL TRUST BUILDING, P. O. BOX 5850
ST. JOHN'S, NEWFOUNDLAND, CANADA A1C 5X3

• TELEPHONE (709) 722-6221 • TELEX 016-4153

June 19, 1984

Dear Sirs:

National Petroleum and Marine Consultants Ltd., has been retained by the Royal Commission on the "Ocean Ranger" Marine Disaster to prepare an Assessment of the Organization and Management Structures whereby governments regulate the safety of Eastern Canada offshore exploratory drilling operations.

As a first step in this assessment, we are compiling a summary of the management structures and current (effective) organization within and between these structures which governments have created to regulate the safety of Eastern Canada offshore exploration.

We should like to solicit your co-operation and assistance in this matter and we would request that you provide us with any relevant information concerning the structure and organization of all sections within your agency which have responsibility for the safety of East Coast exploration activity. This should include information on any sub-agencies, regional organizations or branches of your agency as well as any external agencies, departments, boards, advisory groups and the like which have been delegated responsibility by or which work in co-operation with your agency, together with a description of any liaison mechanisms which exist between these groups and your agency.

Cont'd...

Upon completion of this initial information gathering exercise, we are proposing to visit with you, in order to discuss at first hand the administrative arrangements currently in place to assign responsibilities and co-ordinate activities within your organization and to obtain your opinions on the effectiveness of these arrangements.

We should appreciate your contacting us at your earliest opportunity to discuss these requests further, and we wish to thank you in advance for your consideration and co-operation in this matter.

Sincerely yours,

Garry J. Purcell
Consultant

For

Wilson E. Russell
President

cc W. Potter (COGLA)
Director-General (Nova Scotia)

A. Cobb (COGLA)
Director-General (Newfoundland)

NATIONAL PETROLEUM AND MARINE CONSULTANTS LIMITED

11th FLOOR, ROYAL TRUST BUILDING, P. O. BOX 5850

ST. JOHN'S, NEWFOUNDLAND, CANADA A1C 5X3 • TELEPHONE (709) 722-6221 • TELEX 016-4153

June 19, 1984

Dr. M. Taschereau, Administrator
Canada Oil and Gas Lands Administration,
Tower "B", 355 River Road,
Vanier, Ontario
K1L 8C1

Dear Dr. Taschereau:

Further to our letters dated October 25, 1983 and September 28, 1983, we wish to provide you with a further breakdown of the information we are seeking in relation to the two studies we have undertaken on behalf of the Royal Commission on the "Ocean Ranger" Marine Disaster.

With respect to the study of the organization and management structures whereby governments regulate the safety of Eastern Canada offshore exploratory drilling operations, we request:

- 1) A description of the management structure and current (effective) organization charts of the Canada Oil and Gas Lands Administration.
- 2) A listing of all other organizations related to or appointed by COGLA or the Government of Canada with responsibility for any aspect of offshore exploration safety with a description of their relation to safety.
- 3) A description of the responsibilities and make-up of any advisory committees, boards, liaison groups of other structures employed to assist or facilitate COGLA's regulation of offshore exploration safety.
- 4) A description of the administrative arrangements currently in place to assign responsibilities and coordinate activities of COGLA. Special emphasis should be placed upon the arrangements in place to:
 - develop/modify regulations
 - inspect equipment
 - monitor ongoing operations
 - enforce regulations

Cont'd...

- provide liaison with industry
- resolve interagency conflicts
- approve, submissions such as contingency plans, drilling, applications, etc.
- approve operations/equipment not currently addressed by the regulations.

With respect to the study of the skills required by and the skills present in regulatory groups in relation to the safety of Eastern Canada exploration drilling, we request job descriptions for all managerial and selected technical personnel, within COGLA, having responsibilities directly or indirectly related to the safety of offshore exploration activities. Additionally, we seek permission to interview selected personnel within these levels. The purpose of these interviews will be to record the individuals perception of their skills with respect to (1) their job classifications; and (2) the work they actually perform.

We would again like to thank you for both your time and co-operation and look forward to our meeting on November 4, 1983.

Sincerely,

NATIONAL PETROLEUM AND MARINE CONSULTANTS LIMITED

Wilson E. Russell,
President

WER:pm

cc: - A. Cobb
- W. Potter

NATIONAL PETROLEUM AND MARINE CONSULTANTS LIMITED

11th FLOOR, ROYAL TRUST BUILDING, P. O. BOX 5850

ST. JOHN'S, NEWFOUNDLAND, CANADA A1C 5X3 • TELEPHONE (709) 722-6221 • TELEX 016-4153

June 19, 1984

Mr. John Fitzgerald
Executive Director,
Newfoundland & Labrador Petroleum Directorate,
5th Floor, Atlantic Place,
St. John's, Newfoundland

Dear Mr. Fitzgerald:

As per our meeting, Friday, October 21, 1983, the following is a breakdown of the information we are seeking from your organization for incorporation into the two studies we have undertaken on behalf of the Royal Commission of the "Ocean Ranger" Marine Disaster.

With respect to the study of the organization and management structures whereby governments regulate the safety of Eastern Canada offshore exploratory drilling operations we request:

- 1) A description of the management structure and current (effective) organization charts of the NLPD.
- 2) A listing of all other organizations related to or appointed by the NLPD or the Government of Newfoundland with responsibility for any aspect of offshore exploration safety with a description of their relation to NLPD's mandate.
- 3) A description of the responsibilities and make-up of any advisory committees, boards, liaison groups or other structures employed to assist or facilitate the NLPD's regulation of offshore exploration safety.

A description of the administrative arrangements currently in place to assign responsibilities and coordinate activities of the NLPD. Special emphasis should be placed upon the arrangements in place to:

- develop/modify regulations
- inspect equipment
- monitor ongoing operations
- enforce regulations

Cont'd...

- provide liaison with industry
- resolve interagency conflicts
- approve submissions such as contingency plans, drilling, applications, etc.
- approve operations/equipment not currently addressed by the regulations.

With respect to the study of the skills required by and the skills present in regulatory groups in relation to the safety of Eastern Canada exploration drilling, we request job descriptions for all managerial and selected technical personnel, within NLPD, having responsibilities directly or indirectly related to the safety of offshore exploration activities. Additionally, we seek permission to interview selected personnel within these levels. The purpose of these interviews will be to record the individuals perception of their skills with respect to (1) their job classification; and (2) the work they actually perform.

To confirm what has already been discussed during our meeting, we've identified the following people as possible candidates to be interviewed:

- Mr. Gordon Gosse
- Mr. Jeff Bugden
- Dr. Bobby
- an Inspector
- Mr. Brian Colwell
- Mr. John Parsons

We would again like to thank you for both your time and co-operation and look forward to any information you are able to provide.

Sincerely,
NATIONAL PETROLEUM AND MARINE CONSULTANTS LIMITED

Garry J. Purcell,
Consultant

for Wilson E. Russell,
President

WER:pm

APPENDIX C2

TEXT OF LETTERS OF INQUIRY
TO INDUSTRY REPRESENTATIVES

NATIONAL PETROLEUM AND MARINE CONSULTANTS LIMITED

11th FLOOR, ROYAL TRUST BUILDING, P. O. BOX 5850

ST. JOHN'S, NEWFOUNDLAND, CANADA A1C 5X3 • TELEPHONE (709) 722-6221 • TELEX 016-4153

June 19, 1984

LETTER OF INQUIRY TO OPERATORS AND DRILLING CONTRACTORS

Dear Sirs:

National Petroleum and Marine Consultants Ltd. has been retained by the Royal Commission on the "Ocean Ranger" Marine Disaster to prepare an Assessment of the Organization and Management Structures whereby governments regulate the safety of Eastern Canada offshore exploratory drilling operations. We enclose a letter from the Commission confirming this appointment, together with a copy of the Terms of Reference of this particular study. We would note that this study falls within Part 2 of the Commission's Terms of Reference as set out in the letter of confirmation, and is not concerned with the investigation of the loss of the "Ocean Ranger".

In assessing the effectiveness of the governmental regulatory structures which are the object of this study, we wish to pay particular attention to industry's views on the organization and performance of these structures. In particular, we are inviting selected industry representatives to indicate their opinions regarding government regulation of the following aspects of offshore exploratory drilling as they relate to the safety of personnel:

- 1) Regulations covering the structural integrity, stability, and operations of mobile ocean drilling units.
- 2) Regulations covering well-control, drilling procedures, equipment and the like.
- 3) Regulations covering life-saving equipment and procedures and marine emergency training.

Cont'd...

- 4) Government inspections and monitoring of ongoing operations.
- 5) Procedures for approval of contingency plans, drilling permit applications and other relevant submissions to government.
- 6) Procedures for development, modification, and enforcement of, or exemption from regulations.
- 7) Mechanisms for government liaison with industry.
- 8) Any other aspect of government regulation of East Coast offshore operations which you consider to directly affect the safety of personnel.

As indicated above, your comments should address: 1) the organization of government regulation in these areas as you perceive it, and 2) the effectiveness of the government regulatory structures in each area according to your evaluation.

We should like to solicit your co-operation and assistance in this matter, as we feel that your contribution to such an assessment would be significant. We would point out that all views or opinions expressed would be held in the strictest confidence and would be used solely for the purposes of formulating recommendations aimed at improving the effectiveness of these regulatory structures.

We should appreciate receiving your comments in writing on or before November 7, 1983. In the meantime, we would request your appointment of a representative(s) from your organization whom we may contact to discuss these items further. We thank you in advance for your consideration in this matter.

Sincerely yours,

Wilson E. Russell
President

NATIONAL PETROLEUM AND MARINE CONSULTANTS LIMITED

11th FLOOR, ROYAL TRUST BUILDING, P. O. BOX 5850
ST. JOHN'S, NEWFOUNDLAND, CANADA A1C 5X3 • TELEPHONE (709) 722-6221 • TELEX 016-4153

June 19, 1984

LETTER OF INQUIRY TO MARINE AND AVIATION SUPPLY CONTRACTORS

Dear Sirs:

National Petroleum and Marine Consultants Ltd. has been retained by the Royal Commission on the "Ocean Ranger" Marine Disaster to prepare an Assessment of the Organization and Management Structures whereby governments regulate the safety of Eastern Canada offshore exploratory drilling operations. We enclose a letter from the Commission confirming this appointment, together with a copy of the Terms of Reference of this particular study. We would note that this study falls within Part 2 of the Commission's Terms of Reference as set out in the letter of confirmation, and is not concerned with the investigation of the loss of the "Ocean Ranger".

In assessing the effectiveness of the governmental regulatory structures which are the object of this study, we wish to pay particular attention to industry's views on the organization and performance of these structures. In particular, we are inviting selected industry representatives to indicate their opinions regarding government regulation of the supply and service of offshore exploratory drilling operations as they relate to the safety of personnel:

- 1) Regulations covering the requirements for vessels or aircraft used in the supply, service or other operational support of offshore drilling, including required facilities and operational procedures.
- 2) Regulations covering life-saving equipment and procedures and marine emergency training.

Cont'd...

- 3) Government inspections and monitoring of ongoing operations.
- 4) Procedures for development, modification, and enforcement of, or exemption from regulations.
- 5) Mechanisms for government liaison with industry.
- 6) Any other aspect of government regulation of East Coast offshore operations which you consider to directly affect the safety of personnel.

As indicated above, your comments should address:

1) the organization of government regulation in these areas as you perceive it, and 2) the effectiveness of the government regulatory structures in each area according to your evaluation.

We should like to solicit your co-operation and assistance in this matter, as we feel that your contribution to such an assessment would be significant. We would point out that all views or opinions expressed would be held in the strictest confidence and would be used solely for the purposes of formulating recommendations aimed at improving the effectiveness of these regulatory structures.

We should appreciate receiving your comments in writing on or before November 7, 1983. In the meantime, we would request your appointment of a representative(s) from your organization whom we may contact to discuss these items further. We thank you in advance for your consideration in this matter.

Sincerely yours,

Garry J. Purcell
Consultant

for

Wilson E. Russell
President

APPENDIX D

STUDY TERMS OF REFERENCE

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STUDY OBJECTIVE

To assess critically the organization and management structure whereby governments regulate the safety of Eastern Canada offshore drilling operations.

SCOPE

- The study will include the present organization and management structure and will address any significant changes which have been made to this structure in the past year as well as any firm plans for changes in the immediate future.
- This study will address the federal and provincial (Nova Scotia and Newfoundland) government organizations.
- It will include those agencies responsible for administering legislation pertinent to safety of offshore exploration activities, including marine, drilling, and (air and sea) support functions.
- Safety functions will include occupational health and safety, equipment safety, Worker's Compensation, labour codes, emergency equipment, and training.
- The assigned responsibilities of the various agencies will be described. The administrative arrangements to assign responsibilities and to coordinate activities will be described as they relate to: the

development of regulations; liaison with industry; inspection, monitoring, and enforcement of regulations; and resolution of interagency conflicts.

- The actual functioning of safety management will be described with emphasis on the de facto exercise of responsibilities.
- A critical assessment of the management structure of each government will be undertaken.

